Rock Outcrops

Rock outcrops are considered a sensitive habitat by CDFG as listed in CNDDB. Impacts to rock outcrops would occur under the Preferred Site Plan or either Reduced Alternative Plan. Specifically, the proposed education camp on the northwest portion of the site is expected to impact limited areas of rock outcrop and encroach upon more extensive outcroppings to the north.

These impacts would not be considered significant. The proposed project (all alternatives) will result in limited impacts to this habitat feature and will maintain extensive Rock Outcrops on the western portion of the Camp.

WETLANDS AND NON-WETLAND WATERS OF THE U.S. INDIRECT IMPACTS

Potential indirect impacts to downstream resources may occur as a result of construction and post-construction activities. These impacts will be largely avoided and reduced to a level below significance through implementation of Best Management Practices (BMPs). When development occurs, flow patterns may be slightly altered, runoff diverted, and the chemical composition of the water changed. Because animals and plants are limited by their adaptations, changes in the flow or composition of water will impact the ecosystem (Peck 1993). Maintaining or restoring hydrologic patterns is therefore critical to maintaining the ecological processes that support species abundance and diversity. The proposed project has been redesigned to avoid wetlands, including drainages, to the extent feasible; however, minimal impacts to on-site hydrology and water composition are anticipated due to a road crossing, drainage treatment elements, and the increase in impermeable surface area. Indirect impacts, which could occur but would be avoided or minimized by use of BMPs, may include downstream sedimentation, erosion, and storm water pollution. Measures to avoid and minimize these impacts are addressed in the Mitigation section, and in conjunction with permit-required BMPs, and Design Features 4 through 7 are expected to prevent significant water quality impacts.

WILDLIFE CORRIDOR IMPACTS/ APPLICABLE MSCP/BMO DESIGN CRITERIA

The wildlife corridor impact discussion has been restructured to address the County MSCP Subarea Plan's standards/requirements for wildlife corridors [MSCP (page 4-9) and BMO (Attachment H)]. The MSCP Subarea Plan and BMO contain design criteria for linkages and corridors. Only those criteria that apply to corridors have been addressed herein as a linkage has not been identified within the project site (SANDAG 1996). [The Biological Core and Linkage Area GIS layer and metadata are available from SANDAG (SANDAG 1996)]. Therefore, Design Criteria for Linkages and Corridors numbered 1, 2, 4 and 5, have not been addressed, as they do not apply. Also, criteria number 11 addresses stepping-stone corridors and is not relevant to this project site; therefore, it has not been addressed. Each remaining, applicable criterion is discussed with an evaluation of how it relates to the Preferred Plan. Discussion of how the Reduced Alternatives relate to the corridor standards is included at the end of this section.

Preferred Plan

3) Corridors with good vegetative and/or topographic cover will be protected.

The on-site corridor consists of riparian woodlands and upland habitats adjacent to the West Fork of San Vicente Creek. This local corridor had good vegetative and topographic cover preceding the

Cedar Fire. The amount of vegetative cover within the corridor following the fire has substantially decreased, but in relation to the surrounding burned landscape it still has relatively good cover.

Under the Preferred Plan, the corridor would not be protected in its entirety. The proposed retreat center access road would bisect the corridor in a single location, resulting in direct impacts to Southern Coast Live Oak Riparian Forest and upland habitats adjacent to the West Fork of San Vicente Creek.

Also, a fire clearing requirement of 10 feet from the existing Camp roadway will be imposed; however, due to the presence of a sensitive habitat (Southern Coast Live Oak Riparian Forest) adjacent to the roadway, the fire clearing will exempt removal of oaks (Delgadillo and Porter 2002). Based on a review of existing biological conditions adjacent to the roadway, this fire clearing requirement is not expected to substantially reduce cover or significantly impact the movement of wildlife through the area. While the loss of understory may have ecological impacts, they are not directly related to the functionality of the local corridor for movement. However, construction of the retreat center access road would result in a reduction in vegetative cover and a potential barrier to movement for some species within the corridor under the Preferred Plan.

To minimize the corridor impact, project design includes two 36-inch diameter box culverts under the proposed retreat center access road and no lighting within 100 feet of the corridor. In addition, Design Features 17 through 20 and 26 through 29 are intended to provide protection for the corridor's vegetation communities and transient wildlife.

6) *If a corridor is relatively long, it must be wide enough for animals to hide in during the day. Generally, wide linkages are better than narrow ones. If narrow corridors are unavoidable, they should be relatively short. If the minimum width of a corridor is 400 feet, it should be no longer than 500 feet. A width of greater than 1,000 feet is recommended for large mammals and birds. Corridors for bobcats, deer, and other large animals should reach rim-to-rim along drainages, especially if the topography is steep.*

The corridor associated with the West Fork of San Vicente varies in length as it passes through and off the site. Under existing conditions it's boundary may be defined by the Camp access road to the south and steep topography with increasing shrub density to the north. To the west, the corridor continues along the West Fork as the existing Camp access road turns southward and the corridor is then defined (and limited) solely by vegetative cover and topography. Aside from the Camp access road, all adjacent lands are currently vacant/open space.

The effective corridor width (based on biological surveys that show increased wildlife activity) ranges from approximately 110 feet to over 200 within the Camp property; however, aside from the direct access road there are no restrictions or alterations within the corridor and rim-to-rim corridor width exceeds 1,000 feet. The primary pinch point is where the corridor enters the site on the east, through a large box culvert under Mussey Grade Road. Downstream (southeast) of the site the corridor parallels Mussey Grade Road and maintains a width of approximately 100 feet, bounded to the west by the road and to the east by residential development. On the western side of the site, the corridor effectively dissipates, as the vegetation is dominated by monotypic chaparral and the drainage becomes narrower and steeper, but no land use constraints exist. The total corridor length on-site is approximately 4,900 feet.

Under the Preferred Plan the corridor would be impacted for a road crossing. The proposed encroachment would include the removal of riparian forest and upland habitats (which compose the corridor) within the footprint of an access road proposed to cross the West Fork of San Vicente Creek. This alternative would not meet the 1,000-foot guideline.

In an effort to maintain an effective corridor width, and as stated previously, it is recommended that understory clearing adjacent to the existing Camp access roadway avoid removal of seedling/recruiting oaks and/or sycamores (Design Feature 26).

7) *Visual continuity (i.e., long lines-of-site) will be provided within movement corridors. This makes it more likely that animals will keep moving through it. Developments along the rim of a canyon used as a corridor should be set back from the canyon rim and screened to minimize their visual impact.*

The on-site corridor is a typical local canyon corridor. It supports riparian vegetation on the eastern half of the site and upland chaparral dominated habitat on the west. The natural topography includes curves and visual continuity varies as habitats change through the corridor, but there are no existing gaps in native vegetation or human-induced visual impacts.

Under the Preferred Plan visual continuity would be interrupted by the proposed retreat center access road that would bisect the corridor.

8) *Corridors with low levels of human disturbance, especially at night, will be selected. This includes maintaining low noise levels and limiting artificial lighting.*

As previously addressed, the land uses that currently surround the corridor are largely vacant/open space with the exception of Mussey Grade Road to the east and Golden Eagle Ranch to the north, and the existing Camp facilities farther south. Under existing conditions, the noise and lighting impacts to the corridor are extremely low.

Under the proposed project (all alternatives) traffic will increase on the Camp's existing access road, increasing traffic-related noise and lighting (from automotive headlights) within the corridor. However, this increase is expected to be minimal with regard to times when the corridor would receive the bulk of its use by wildlife (early morning and night). Also, noise below 60 dBA is not typically considered an impact to wildlife; the project's noise study determined that noise levels would not exceed 60 dBA within sensitive habitats (including the on-site Southern Coast Live Oak Riparian Woodland of the corridor).

To maintain low light levels, lighting within 100 feet of the corridor has been prohibited (Design Feature 15).

Additional Design Features to minimize automotive-related noise and light impacts to the corridor include, establishment and enforcement of a 15-mph speed limit within the Camp and the use of speed bumps, Design Features 9 and 8, respectively.

9) *Barriers, such as roads, will be minimized. Roads that cross corridors should have 10 foot high fencing that channels wildlife to underpasses located away from interchanges. The length-to-width ratio for wildlife underpasses is less than 2, although this restriction can be relaxed for underpasses with a height of greater than 30 feet.*

The Preferred Plan includes one crossing (barrier) of the corridor, the retreat center access road. The roadway would incorporate an underpass composed of two 36-inch diameter box culverts. The Retreat Center Access Road has been designed to the narrowest width (24 feet) allowed by the County to minimize movement barriers and maximize the length to width ratio of the underpass. However, even with the combined width of the 2 box culverts, the length the width ratio is 4:1, not the desired less than 2:1.

10) Where possible at wildlife crossings, road bridges for vehicular traffic rather than tunnels for wildlife use will be employed. Box culverts will only be used when they can achieve the wildlife crossing/movement goals for a specific location. Crossings will be designed as follows: sound insulation materials will be provided; the substrate will be left in a natural condition, and vegetated with native vegetation if possible; a line-of-site to the other end will be provided; and if necessary, low-level illumination will be installed in the tunnel.

This criterion establishes desired design standards for road crossings in areas with wildlife corridors. It includes the qualifier "where possible" which implies that it is not absolutely required; however, per the County staff, "every effort should be made to meet these standards". In the location of the retreat access road a bridge is not feasible. The drainage here is low and the canyon is relatively open. Attempts to bridge the creek or corridor would result in increased corridor encroachment. Thus, box culverts have been included within the roadway design. These culverts would permit movement of medium sized mammals. They may permit movement of Coyotes and Bobcats, but these species are known to cross at grade even where underpasses exist. Under the Preferred Plan, natural vegetation would persist surrounding the proposed crossing and the box culverts were permit a line of sight to the other end.

In summary, the Preferred Plan does not appear to comply with criteria 3, 6, 7, or 9, but does comply with 8 and 10.

Reduced Alternatives

Under the Reduced Alternatives, the corridor would be maintained in its entirety (meeting all MSCP design criteria). There would be no change in vegetative or topographic cover and the 1,000-foot corridor width guideline would be met. Also, visual continuity will be maintained under the Reduced Alternatives, which proposed no alternation from existing vegetative conditions.

The significance of wildlife corridor impacts for projects within the County MSCP Subarea Plan boundary is based upon the project's consistency with the MSCP/BMO Design Criteria for Linkages and Corridors. Under the Preferred Plan, the on-site wildlife corridor would be directly impacted. To reduce the Preferred Plan's biological corridor impacts, Design Features have been incorporated into the project; however, even with incorporation of the Design Features the Preferred Plan does not meet all the design criteria applicable to corridors and thus, the impact would remain significant. The Reduced Alternatives would meet the MSCP/BMO Design Criteria for Linkages and Corridors; therefore, a significant corridor impact has not been assessed under either alternative.

SENSITIVE SPECIES IMPACTS

Sensitive Flora Impacts

Direct impacts to Ramona Horkelia, Gander's Butterweed, and Felt-leaved Monardella are not anticipated as a result of the proposed project under either plan. Populations of these sensitive plants are located to the west of all proposed development. Although these species are adjacent to a hiking trail, improvements or other alterations are not proposed for the trail. According to the Preferred Site Plan, no re-grading of the dirt road should occur in areas of sensitive plants, regardless of the future erosion on the road as sensitive shrubs currently grow at the roadway. Nonetheless, indirect impacts, due to increased foot traffic through the area within which these populations are located, could occur as a result of the project. To avoid such impacts the project has incorporated Design Features 10 through 13.

The County has requested that additional information be provided to support impact conclusions, the information below is provided for this purpose. All of the sensitive plants mapped lie within 100 feet of an existing trail. The plant populations are not evenly distributed because of the influences of slope, aspect, fire, and moisture influences. The sensitive plants are found in the area of the trail because of the disturbance. More specifically, the creation and/or prior maintenance of the trail (which is what is meant by the prior reference to "disturbance") created an opening in otherwise typically dense chaparral habitat occupying the surrounding areas. Thus, the trail alignment has created a microclimate with more light within a dense chaparral slope. The individuals mapped along the trail have likely taken advantage of the appropriate soil conditions, and the microclimate created by both the trail and openings in the chaparral from fire. Use of the trail by both people and wildlife maintains the microhabitat at least within the vicinity of the trail, not from off-trail intrusion by humans, but from maintenance of the existing trail as an opening and the use of numerous animal pathways which branch off of the trail. Since natural communities are typically dynamic in nature, the number of Gander's Butterweed, Ramona Horkelia, and/or Felt-leaved Monardella is not expected to remain static within the area. However, County staff's recommendation of fencing off the populations would likely result in loss of the populations from competition with unchecked growth of chaparral vegetation more rapidly than would occur otherwise. The recommended signage and foot stakes Design Features are better suited for the preservation of sensitive plants on-site.

The trail along which these sensitive plant species occur shows no evidence of off-trail intrusion. Topography, rocky soils, and a generally uninviting landscape appear to have discouraged off-trail use of the area. It is also possible that the demographic most likely to venture off of marked trails is not represented within the Camp population. Taking all of this into consideration, coupling it with the limited increase in use under the proposed project (any alternative) (see previous project description), and applying the project Design Features 10 through 13 should result in a non-significant impact.

In addition, the MSCP conditions of coverage would apply (Table 9). The project's Design Features are expected to support the goal of reducing detrimental edge effects on Felt-leaved Monardella and Gander's Butterweed and ensure compliance with the MSCP conditions of coverage for these species.

Table 9. Sensitive MSCP Faunal Species Detected within the Camp Preserve Areas and Corresponding MSCP Conditions of Coverage

MSCP Covered Species	Conditions of Coverage (Based on MSCP Table 3-5)
Felt-leaved Monardella	Measures to protect against detrimental edge effects
Gander's Butterweed	Protect against detrimental edge effects and measures to address the autecology and natural history of the species.

Ashy Spike-moss is scattered throughout appropriate habitat on-site and impacts may occur as a result of project implementation. Since the project avoids many of the major rock outcrop areas on-site, it is expected to correspondingly avoid the major Ashy Spike-moss populations on-site. In addition, this species was most commonly observed at higher site elevations, which have not, for the most part, been included in the development footprint. Impacts to Ashy Spike-moss would not be considered significant, as this is a regionally common plant and is expected to occupy much of the Camp not slated for development. The portions of the on-site population within the impact area could be lost in their entirety and it would not affect the viability of regional populations.

Direct and indirect impacts to Engelmann Oaks are anticipated as a result of project construction and subsequent facility operations. Under the Preferred Site Plan, a maximum of 38 Engelmann Oaks would be directly or indirectly impacted through project construction or reasonably foreseeable future impacts resulting from the proposed construction. A total of 28 oaks will be impacted directly by the proposed construction, another 10 oaks lie within an existing development area slated for a conversion from cabins to staff housing and roadway paving. The majority of these impacted oaks are mapped as portions of Coast Live Oak Woodland, although one is mapped as part of Southern Coast Live Oak Riparian Forest, and 3 are mapped as individual trees in sage scrub, chaparral and scrub-chaparral. (Its should be noted that the numbers of impacted Engelmann Oaks provided above and below are pre-Cedar Fire numbers. The current number of impacted Engelmann Oaks is less than previously stated, due to some permanent loss of this species to the fire.)

Under the Reduced Alternative Plan, 32 Engelmann Oaks would be impacted. The majority of the Engelmann Oak impacts are the result of proposed leach fields in the central and southern portion of the project site. Additional Engelmann Oak impacts would result from installation of the water line, cabins, the administration center, roadway near the pool, staff housing, and under the Preferred Plan the retreat center access road. A minimum of 22 Engelmann Oaks will be impacted directly by the proposed construction and 10 additional oaks lie within an existing development area slated for a conversion from cabins to staff housing and roadway paving.

Direct and indirect impacts to Engelmann Oaks would be significant under either plan since the species is a County List B species and the project could have the effect of substantially reducing the viability of the affected population through direct and indirect impacts. Engelmann Oak may not have high levels of recruitment within some populations and the loss of 32 of approximately 53 trees could affect population long-term viability.

Sensitive Wildlife Impacts

Impacts to California Gnatcatcher are not expected based on the negative results of the 1999 focused surveys. County staff expressed concern that impacts to California Gnatcatchers may have occurred

as a result of sage scrub clearing conducted for percolation testing. Since the initial clearing was undertaken prior to focused 1999 gnatcatcher surveys and did not include any type of biological clearance it cannot be definitively determined that there was no impact to California Gnatcatchers. However, the clearing consisted of removal of a series of small patches within sage suitable habitat, and the remaining habitat did not subsequently reveal the presence of gnatcatchers. Based on the availability of suitable habitat on-site it is likely that any gnatcatcher displaced by clearing activities would have shifted its territory to occupy sage scrub within the project area or boundary, but no gnatcatchers were ever detected. It is unlikely that percolation clearing conducted for the project impacted California Gnatcatchers. Also, based on the negative findings of the focused surveys and a lack of gnatcatcher presence on adjacent lands (based on CNDDB 2006 data) there appears to be no potential for indirect (noise) impacts to gnatcatchers.

Impacts to nesting Cooper's Hawks may occur as a result of the proposed project under either plan. Previous and current biological investigations have repeatedly identified Cooper's Hawks within the project's oak woodlands. Direct impacts to a Cooper's Hawk nest would be considered significant; however, recent biological investigations did not identify an active nest on-site. The seasonal avoidance requirements or survey requirements discussed in the paragraph below for Red-shouldered Hawk also apply for Cooper's Hawk and would ensure no direct impacts occur. The potential impacts to the Cooper's Hawk through loss of habitat would not be considered significant under either plan due to coverage of the species under the MSCP and project compliance with the MSCP's species-specific conditions of coverage. The Preferred Site Plan has been redesigned to minimize impacts to sensitive habitats, including riparian oak forest and oak woodlands, which would be utilized by Cooper's Hawk. The Reduced Alternatives further minimize oak woodland and riparian oak forest impacts by reducing the scale of the proposed project and reconfiguring the project layout.

The Red-shouldered Hawk will also be impacted by the proposed project through the loss of Coastal Sage Scrub, chaparral, and oak woodlands. Through relocation of the retreat center facilities, the Reduced Alternatives would decrease potential for impacts to Red-shouldered Hawk. For all alternatives, construction should be undertaken in the non-breeding season to avoid impacts to resident raptors and/or nesting passerine species. If this is infeasible, surveys by a qualified biologist should be conducted immediately prior to construction to ensure no direct nest impacts. Although adverse, impacts to Red-shouldered Hawk would not be considered significant if project construction were undertaken in the non-breeding season (15 August to 1 February).

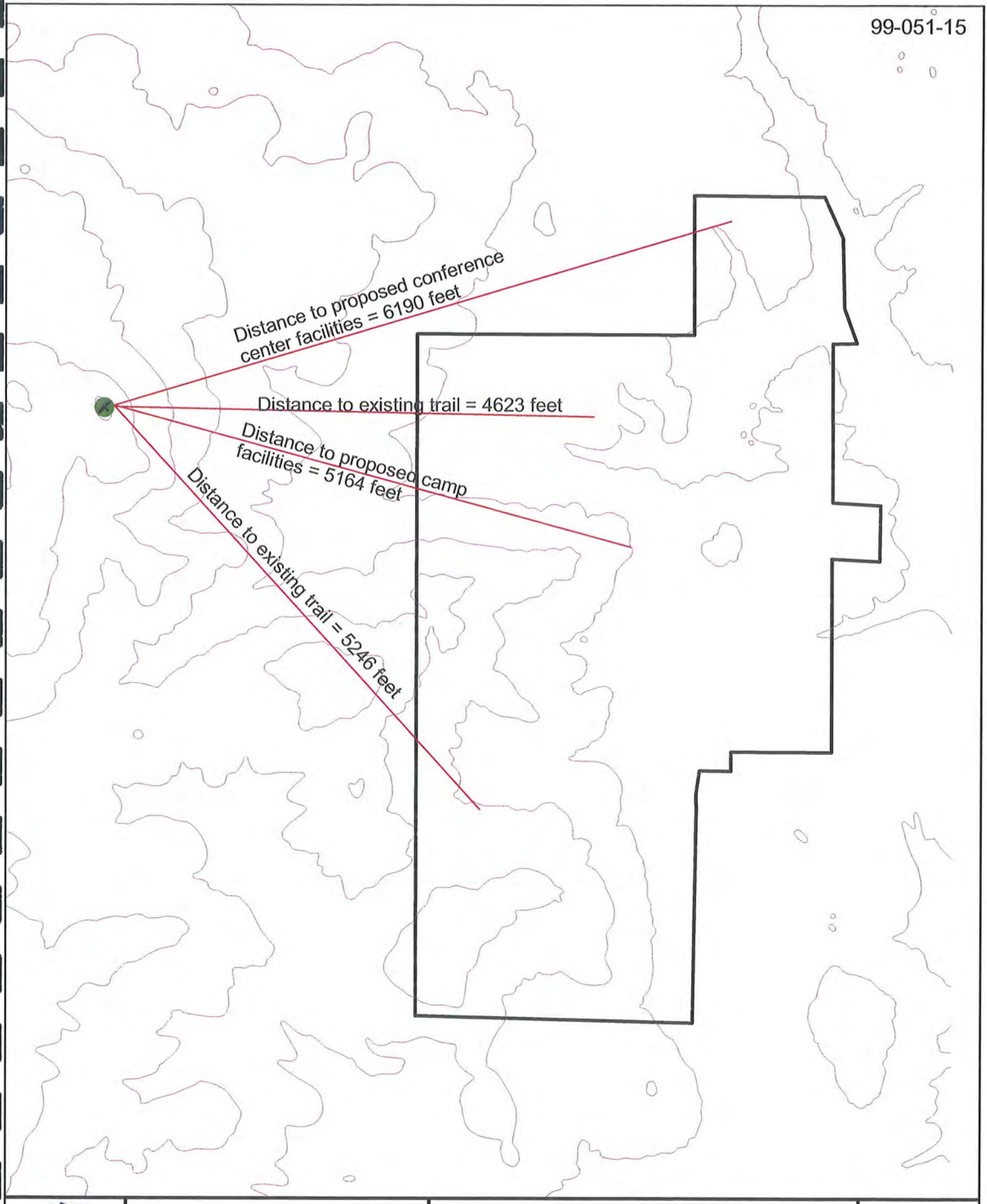
The proposed redesigned project has eliminated previous project elements in the northwestern corner of the project site, closest to the Golden Eagle nest site. The Preferred Site Plan and Reduced Alternative Site Plans do not propose any impacts within 4,000 feet of the Iron Mountain nest site. Under the Preferred Site Plan and Reduced Alternative Plans, the closest new Camp facility (education camp) would be 5,164 feet from the Iron Mountain (Sole Peak) nest site and the closest activity would be hiking along an existing northwestern trail 4,623 feet from the nest site (Figure 5). This trail does not represent a change from current conditions. All of these proposed and existing uses are greater than 4,000 feet from the nest site, which is the County MSCP Subarea Plan required buffer distance. This distance is also greater than one half mile from the nest site, the distance referenced in the Golden Eagle report (Appendix 10)(Wildlife Research Institute [WRI] 2001). This having been said, any trail that leads toward Iron Mountain and provides a clear view of the Sole Peak may increase the likelihood of trail blazing and human disturbance in the vicinity. The project incorporates Design Feature 13 to address this concern.

The resident pair of eagles may be impacted through direct loss of foraging habitat or indirect loss of habitat due to fragmentation and disturbance. The WRI report (2001) states that loss of eagle foraging area, through development of the Salvation Army Camp could adversely impact the local eagle pair. Observations by M&A biologists indicate that while upper elevation areas may be utilized for foraging by eagles, the central Camp does not provide high quality eagle foraging habitat. The central Camp is broken up by existing structures and ornamental plantings and, based on a qualitative assessment, does not support the dense prey base observed on the neighboring Wildwood Ranch and Golden Eagle Ranch properties. Locating the retreat center in native habitats on the northern portion of the project as planned in the Preferred Site Plan, could result in impacts to Golden Eagle foraging within these native habitats and the adjacent Golden Eagle Ranch. Conversely, the Reduced Alternative Plans, which focus Camp development within the center of the site, away from the Golden Eagle nest site and contiguous native habitats, are much less likely to impact important forging areas. In addition, the revised open space design would preserve extensive foraging habitat on-site, which is contiguous with off-site preserved lands. Ultimately, impacts to Golden Eagle through loss of foraging habitat would not be considered significant under either plan due the species coverage under the MSCP and project compliance with the MSCP conditions of coverage.

Potential impacts through habitat loss (under either plan) are also anticipated for the following sensitive species: Harbison's Dun Skipper, Western Spadefoot, San Diego Banded Gecko, San Diego Horned Lizard, Coronado Skink, Orange-throated Whiptail, Coastal Whiptail, Silvery Legless Lizard, Coastal Rosy Boa, Coast Patch-nose Snake, San Diego Ringneck Snake, Two-striped Garter Snake, Northern Red Diamond Rattlesnake, Turkey Vulture, White-tailed Kite, Southern California Rufous-crowned Sparrow, Western Bluebird, Pallid Bat, Townsend's Big-eared Bat, California Mastiff Bat, Pocketed free-tailed Bat, Long-eared Myotis, Northwestern San Diego Pocket Mouse, and San Diego Desert Woodrat.

The Pallid Bat, Pocketed free-tailed Bat, Long-eared Myotis, and Townsend's Big-eared Bat have a strong association with oak woodlands in this region (D. Stokes pers. com.). The Pallid Bat may feed on the ground, taking terrestrial arthropods and would be adversely affected by the loss of oak woodland, riparian forest, or woodland understory (D. Stokes pers. com.). Other bat species not listed here, but potentially present, are not as strongly associated with oak woodlands, the project site is on the periphery of their known range, or information necessary to assess an impact is lacking (D. Stokes pers. com.). To avoid conflicts with and impacts to bats, all buildings should be constructed in a manner that reduces the likelihood of bat colonization. Certain bat species have an affinity for human-made structures and may be adversely affected if they establish a roost and are subsequently disturbed or removed. Bat proofing of on-site buildings should be accomplished by eliminating cavities and crevasses. In addition, any unused structure should be dismantled before bats have an opportunity to colonize it, unless the presence of a bat colony will be tolerated and disturbance will be prevented or minimized. Any structure slated for removal should be examined for sensitive bat species prior to demolition.

Potential impacts to the low sensitivity species listed above would not be significant; because, although these species have either been identified on the Camp property proposed for development, or have potential to occur there, they are not known to occur in numbers, which if impacted, would be considered significant.



Golden Eagle Nest Site In Relation to Existing and Proposed Development

Figure 5

Additional discussion of and biological support for faunal impact significance determinations, has been provided below. It represents the results of searches of available regional data, additional field analysis, comparisons of on-site data with data from neighboring sites, and natural history review for the species in question. Unfortunately, little to no (quantitative) information is available on the actual population status of a number of low sensitivity species within the MSCP region.

As previously mentioned, Harbison's Dun Skipper was not detected on-site by M&A biologists, nor has it been reported from the immediate area; thus, no significant impacts are expected.

Western Spadefoots require temporary rain pools that last 3 weeks in order to metamorphose successfully (Jennings and Hayes 1994). Such conditions do not persist on the project site, or have not persisted within the period of the biological surveys. The only tadpoles identified on-site during the biological surveys were Pacific Treefrog, which occurred in a small pool drying up prior to their successful metamorphosis in 2006. It is, therefore, not expected that a significant toad population occurs on-site or that impacts to on-site habitats would result in any detectable or measurable change in local amphibian populations.

Impacts to the San Diego Banded Gecko would be limited to development within areas of scrub or chaparral with rocky outcrops. Most of this habitat is not being developed as it lies in the upper elevation of the site and would be included in the biological open space (all alternatives). If any impacts occur to this gecko species they would be so small as to be undetectable within the regional population, as most suitable habitat is outside the development area.

Silvery Legless Lizards are expected within loose sandy substrates with sufficient moisture content. On-site, the most superficially suitable habitat occurs on the downstream portion of the West Fork of San Vicente Creek, near the Mussey Grade Road underpass. Here the soils are looser and the creek would provide moisture. No impacts are proposed for this specific area, but other similar areas are slated for impacts under the Preferred Site Plan. Nevertheless, impacts to suitable legless lizard habitat have been largely avoided to comply with RPO restrictions and the limited remaining impacts would not impact an area large enough to support a significant population of legless lizards.

Most of the high quality San Diego Horned Lizard habitat on-site lies outside of the development footprint and within the proposed biological open space. Chaparral and scrub on the western portion of the project site with openings from fire and rock outcrops represent some of the best habitat on-site;second to these areas, are chaparral habitats with trails. The trails provide a necessary opening in the dense chaparral habitat. Loss of on-site sage scrub and chaparral scrub will decrease the availability of suitable habitat and impact the on-site population; however, there is no evidence from biological surveys that a significant population exists on-site. In fact, surveys by M&A biologists of nearby properties revealed much higher lizard densities than those observed on the Camp. Based on this information, no significant impact has been assessed for any project alternative.

MSCP herpetological sampling has indicated that the Coronado Skink and Orange-throated Whiptail are quite common. The skink is a habitat generalist and can persist within a number of vegetation associations. Although the Orange-throated Whiptail is more of a habitat specialist, it can occur in sage scrub, disturbed areas, and chaparral given suitable vegetative resources persist to support it's prey and the habitat is not too dense. These species' flexibility and regionally common status favor a determination of not significant. The loss of on-site populations within development areas is not anticipated to be detectable regionally and thus is not significant. The Western Whiptail prefers more open habitats, or at least sunny microhabitats. Much of the Camp's native habitats are too

dense to provide good whiptail habitat. Where openings occur naturally or in conjunction with trails or disturbance this species is expected. The number of whiptails (both species) on-site is not expected to be significant and, as stated for the Orange-throated Whiptail, the loss of a portion of the on-site population would not be measurable or significant.

Rosy Boas and Northern Red Diamond Rattlesnakes prefer areas with moderate to dense vegetation and rocky cover. They are expected in the upper, western reaches of the project site, within proposed open space. Impacts to areas with suitable habitat for these species are limited to the retreat center and some leach field areas. These species, if resident on-site, would be expected almost exclusively outside of the development area and within open space. Thus no significant impacts have been assessed for any alternative.

The Coast Patch-nose Snake is another resident snake species, which likely inhabits chaparral and scrub on-site. Sufficient suitable habitat lies within the project's open space to avoid elimination of the species from the project site and certainly from the region. Impacts would not be significant.

The San Diego Ringneck Snake is another habitat generalist, found in most habitats, including sage scrub, chaparral, oak woodlands, riparian areas, and grasslands. It has been recorded within suburban development areas and appears capable of persisting within limited tracks of habitat. Impacts to this species are particularly possible in areas of riparian grassland edge, but such impacts on-site are limited under any alternative. This species is expected to persist on-site with no detectable or significant effect on the population.

The Two-striped Garter Snake may intermittently forage on-site, but is not expected to be a resident as suitable foraging habitat is seasonally limited.

Neither the Turkey Vulture nor the White-tailed Kite nest on-site. The loss of habitat for foraging for the Turkey Vulture would not be significant as suitable foraging habitat occurs throughout much of the County. Similarly higher quality kite foraging habitat exists off-site and no significant raptor foraging activity was ever observed on-site, probably due to limited prey base and existing activities/uses.

The Southern California Rufous-crowned Sparrow is locally common in open sage scrub in San Diego County, and occurs wherever suitable habitat remains in large blocks. Despite the loss of some suitable habitat from proposed development (all alternatives), much of the on-site suitable habitat is not proposed for impact and would be preserved. In addition, extensive tracts of suitable habitat border the site to the west. The loss of a small number of territories from the project would not significantly effect this species' local or regional population.

The Western Bluebird is a common to very common resident and winter visitor in San Diego County (Unitt 1984). It is a bird of edge habitats and prefers oak woodlands where they adjoin meadows or grassland. The habitats utilized heavily by bluebirds at the Camp now lie within or adjacent to existing developed areas. Concern exists over the effects of aggressive cavity nesting competitors in breeding habitat. This concern would not apply here as the site is only known to support transient and wintering birds. There would be only a small impact on the migrant bluebird population through loss of on-site oak woodlands. Although winter occupied habitat may shift, the habitat loss is not expected to have any corresponding impact on the bluebird population, as suitable habitat will remain on-site and adjacent to the site.

The significance of impacts to the Pallid Bat, California Mastiff Bat, Townsend's Big-eared Bat, Pocketed free-tailed Bat, and Long-eared Myotis has been assessed based on the amount of oak woodland impacts relative to the available remaining oak woodlands within an approximate 10 km distance. Despite impacts, the proposed open space easement would preserve a large area of oak woodlands on-site (over 30 acres). Also, the immediate region supports high quality riparian oak forest associated with San Vicente Creek and its tributaries and upland oak woodlands. Unlike coastal areas, the eastern portion of San Diego County has retained a fair amount of oak woodland habitat. Despite the loss of bat habitat, the persistence of oak woodlands in relatively high numbers on-site and within the immediate region should prevent any significant impacts under the proposed project (all alternatives).

The Northwestern San Diego Pocket Mouse inhabits sage scrub, sage scrub/grassland ecotones, and chaparral communities. This species remains relatively common within the San Diego/Riverside region (Dudek & Associates 2000). In the coastal region, the San Diego Desert Woodrat is considered to be a habitat generalist because of the region's relatively mesic climate and abundant shelter and food availability (Bleich 1973 in Dudek & Associates 2000). The generalist nature of both these species, along with their low sensitivity status, and the preservation of large tracts of suitable habitat on-site, results in the determination of no significant impacts.

Finally, the Ringtail and Mountain Lion likely use the project area during wide range movements and are expected to occasionally forage on-site. Under either plan, direct impacts to these species may occur through loss of habitat and habitat fragmentation, but these impacts are not expected to be significant.

The project is also required to comply with the MSCP species-specific conditions of coverage as a condition of project approval (Table 10). It is anticipated that Design Features incorporated into the project to address edge effects and management of the on-site open space easement will meet the applicable conditions of coverage.

Table 10. Faunal Species Detected or Expected within the Camp Preserve Areas and Corresponding MSCP Conditions of Coverage

MSCP Covered Species	**Conditions of Coverage from MSCP Table 3-5**
Orange-throated Whiptail	Address edge effects
San Diego Horned Lizard	Maintain native ant populations, discourage the Argentine Ant and protect against detrimental edge effects.
Cooper's Hawk	In the Metro-Lakeside-Jamul segment preserve areas shall conserve patches of oak woodland and oak riparian forest of adequate size for nesting and foraging habitat. A 300-foot impact avoidance area around nests and minimization of disturbance in oak woodlands and oak riparian forests is required.
Golden Eagle	Measures to avoid human disturbance while the nest is active, establishment of a 4,000-foot disturbance avoidance area (within preserve lands), and nest site monitoring.
Western Bluebird	None
Southern California Rufous-crowned Sparrow	Maintenance of dynamic processes, such as fire, to perpetuate some open phases of Coastal Sage Scrub with herbaceous components.
Mule Deer	None

EDGE EFFECT/INDIRECT IMPACTS

The focus of this section is to prove an understanding of indirect impacts (impacts that would occur in the future) specifically associated with development-induced edge. The section provides a general discussion of potential edge effects, a description of those edge effects that could occur in association with this project's proposed development, and the project design measures that have been incorporated into the project (project Design Features) to avoid and/or minimize edge effects.

Fragmentation of wildlife habitat, that would occur as a result of the proposed project, would reduce the quality of existing habitats for many large mammalian predators, birds of prey, and their prey species. Habitat fragmentation occurs when a native vegetation community is not entirely altered or developed, but what remains has a diminished wildlife habitat value. Fragmentation increases the amount of edge. While diversity may be highest at natural edges, there are deleterious effects associated with edges. Boundary areas often have altered microclimates, hydrology, and soil conditions. Native flora is apt to encounter increased competition from weedy species, which in turn affects the value of the habitat for wildlife. Edges between natural systems and human land uses can amplify these detrimental edge effects and add others such as increased incidences of disease and pollution risks (Peck 1993).

Woodland species are more susceptible to depredation at edges than within the interior of a habitat patch; they are also more likely to experience brood parasitism and increased competition for nesting cavities from non-native species. Several studies have demonstrated a negative correlation between nest depredation and the size of vegetation remnants (Wilcove and Murphy 1985, Small and Hunter 1988, Gibbs 1991, Donovan et al. 1995). Within fragments, the search pattern of predators maybe simplified by what is essentially a one-dimensional habitat, resulting in higher predation efficiency (Major et al. 1999). Also, fragmented habitats may no longer be able to support large predators. The presence of these large predators has been demonstrated to hold in check populations of smaller, meso-predators. In the absence of larger predators, smaller meso-predators [domestic or feral cats (*Felis catus*), skunks, Raccoons, jays, etc.] become more abundant as large predators no longer limit their populations. Without the presence of large predators, avian and small mammal diversity and abundance declines, presumable due to increased predation pressure from non-native meso-predators (Crooks 1999, Crooks and Soule 2000, Giusti and Tinnin 1993).

Increases in artificial light and noise levels also typically occur in association with development-induced edges. The specific effects of noise and artificial lighting increases on some species have been documented. Such adverse impacts include physiological and behavioral impacts on resident wildlife and plants. For example, seasonal changes in night length induce parallel changes in the duration of melatonin secretion. The circadian rhythms of some plants change under continuous light, causing changes in leaf loss timing in deciduous trees (Upgren 1996). Buchanan (1993) found that artificial lighting significantly reduced the ability of nocturnal frogs to detect and consume prey. Similarly, outdoor lighting disturbs the flight, navigation, vision, migration, dispersal, oviposition, mating, feeding, and crypsis in some moths (Frank 1988). The effect of night illumination on moths has a corresponding effect on some high flying bat species, which congregate to feed within the area of the light source (Rydell and Baagoe 1996). Drawing insects out of their native habitats into lighted areas may reduce food availability for bat species that employ gleaning as a foraging method and the effects on bats attracted to the artificial congregations of insects near a light source are unknown. Thus the presence of artificial nighttime light has implications for a number of species, including the potential to artificially increase predation rates on vulnerable species.

The effects of increased noise on wildlife populations have been investigated since the 1970s. The results of the research have been widely varied, depending on study site, study subject, type of noise, etc. While numerous studies have demonstrated the detrimental effects of noise on wildlife a few have indicated that some species habituate to increased noise levels. There appears to be a wide degree of tolerance variability, which may even occur on an individual level. Generally speaking, noise levels below 60 dBA are not considered a significant impact by the resource agencies. Since the project's noise study determined that on-site traffic noise would result in levels under 60 dBA Leq at sensitive habitats, such as sage scrub and riparian forest, this is not considered a significant impact.

Free-ranging domestic animals have a direct impact on local fauna. The introduction of domestic cats has been shown to result in decreased avifuana diversity and abundance (Crooks 2000). These mesopredators are known to take small mammals, birds, and reptiles indiscriminately (Crooks 1998). Domestic dogs will also take small game and disrupt the behavior of larger species including deer and Mountain Lion.

Project-specific potential edge effects and project Design Features incorporated into the Preferred Plan and Reduced Alternatives to avoid and/or minimize these indirect impacts are addressed below within Table 11. Overall, the edge effect impacts are expected to be greater under the Preferred Plan than the Reduced Alternatives. The primary difference between the Preferred Plan and the Reduced Alternatives is the relocation of the retreat center toward the central camp facilities under the Reduced Alternatives and different configurations of the open space easements. These planning alterations reduce edge effects by clustering development and maximizing the area of open space with minimal perimeter. (The difference in edge effect impacts between the 2 Reduced Alternatives is not expected to be detectable.) Since the MSCP Findings require "The project provides for the creation of significant blocks of habitat to reduce edge effects and maximize the ratio of surface area to the perimeter of conserved habitats", the Reduced Alternatives are superior to the Preferred Plan relative to this finding due to their decreased amount of open space perimeter relative to the overall open space area.

Table 11. Potential Edge Effects and Corresponding Project Design Features

Potential Edge Effects	**Project Design Features to Avoid, Minimize, and/or Mitigate Edge Effects**
Vegetation Communities	
Oak woodlands may be sensitive to edge effects resulting from irrigation, soil compaction, filling, and paving in and around oaks. Potential adverse effects on the natural ecosystem from the use of herbicides, fungicides, pesticides, and fertilizers required to maintain turf and landscaping and during paving operations.	Any ground disturbance within 25 feet of an oak has been addressed as a direct impact and mitigated as such. Design Feature 3
Increased competition from weedy species near habitat edges.	Design Feature 23 (see Appendix 8)
Vegetation communities within the open space easement could be subject to indirect impacts resulting from human trampling of vegetation.	Design Features 16, 19, and 21
Sensitive Plants	
The project's potential for edge effect impacts to sensitive flora are	Design Features 10 through 13

Potential Edge Effects	**Project Design Features to Avoid, Minimize, and/or Mitigate Edge Effects**
limited to the effects of human intrusion into populations of Felt-leaved Monardella and Gander's Butterweed.	
Sensitive Wildlife Resources	
Artificial lighting could negatively impact the on-site wildlife corridor and the deciduous trees within it or other high quality wildlife habitats adjacent to development. Artificial lighting may also adversely effected bats (including sensitive species).	Design Features 14 and 15
Impacts to wildlife species may result from roadkill where traffic frequencies increase.	Design Features 8, 9, 17, 18, 20 and 29
The introduction of invasive species into the Camp biological open space areas could have long-term, serious effects on wildlife habitat.	Design Feature 23 (see Appendix 8)
The presence of any free-ranging domestic animals within the project site is expected to negatively effect wildlife use of the property and may result in direct mortality, particularly for small mammals, passerine birds, and lizards.	Design Features 24 and 25*

*Enforcement of the cat restriction law (Design Feature 25) would be difficult; however, homeowners associations have achieved success with similar issues through enforcement of Covenants, Conditions, and Restrictions (CC&Rs). (In *Nahrstedt v. Lakeside Village Condominium Association*, the California Supreme Court established a new standard for enforcing CC&Rs in common interest developments. The plaintiff brought suit against her condominium association, challenging its pet restriction policy and seeking relief from fines levied against her for keeping her cats in her condominium. The court held that CC&Rs were presumed to be reasonable, and unless a plaintiff could prove them to be unreasonable, CC&Rs would be enforced by the courts. The court defined unreasonable as a 3 part test: (1) being arbitrary, (2) violating a fundamental public policy, or (3) imposing a burden on the association member that substantially outweighed the benefit to the association as a whole. Lakeside Village Condominium Association prevailed in the suit because the plaintiff failed to prove that the pet restriction policy was unreasonable.) The *Nahrstedt v. Lakeside Village Condominium Association* decision indicates that CC&Rs are, in fact, enforceable.

The significance of edge effects (after consideration of Design Features to avoid, minimize, and/or mitigate impacts) can be assessed based on the potential to effect sensitive species and/or compliance with the MSCP Subarea Plan (particularly conditions of coverage). The MSCP Conformance Findings require "The project provides for the creation of significant blocks of habitat to reduce edge effects and maximize the ratio of surface area to the perimeter of conserved habitats". The project has incorporated a number of Design Features, which would result in avoidance and/or minimization of edge effects. However, under the Preferred Plan, the configuration of the open space easement would have a greater amount of edge than under the Reduced Alternatives and would be in closer proximity to development (see Figures 2a1-11, 2b1-11, and 2c1-11). The Preferred Plan's open space easement does not maximize the ratio of surface area to the perimeter of conserved habitats as much as the Reduced Alternative open space easement would. Based on this information, edge effects under the Preferred Plan would be significant, but those under the Reduced Alternatives would not.

CUMULATIVE IMPACTS

Cumulative impacts may be defined as the incremental impact of the proposed project when added to other past, present, and reasonably foreseeable future actions. Cumulative impacts can result from individually minor but collectively significant (cumulatively considerable) actions taking place over time.

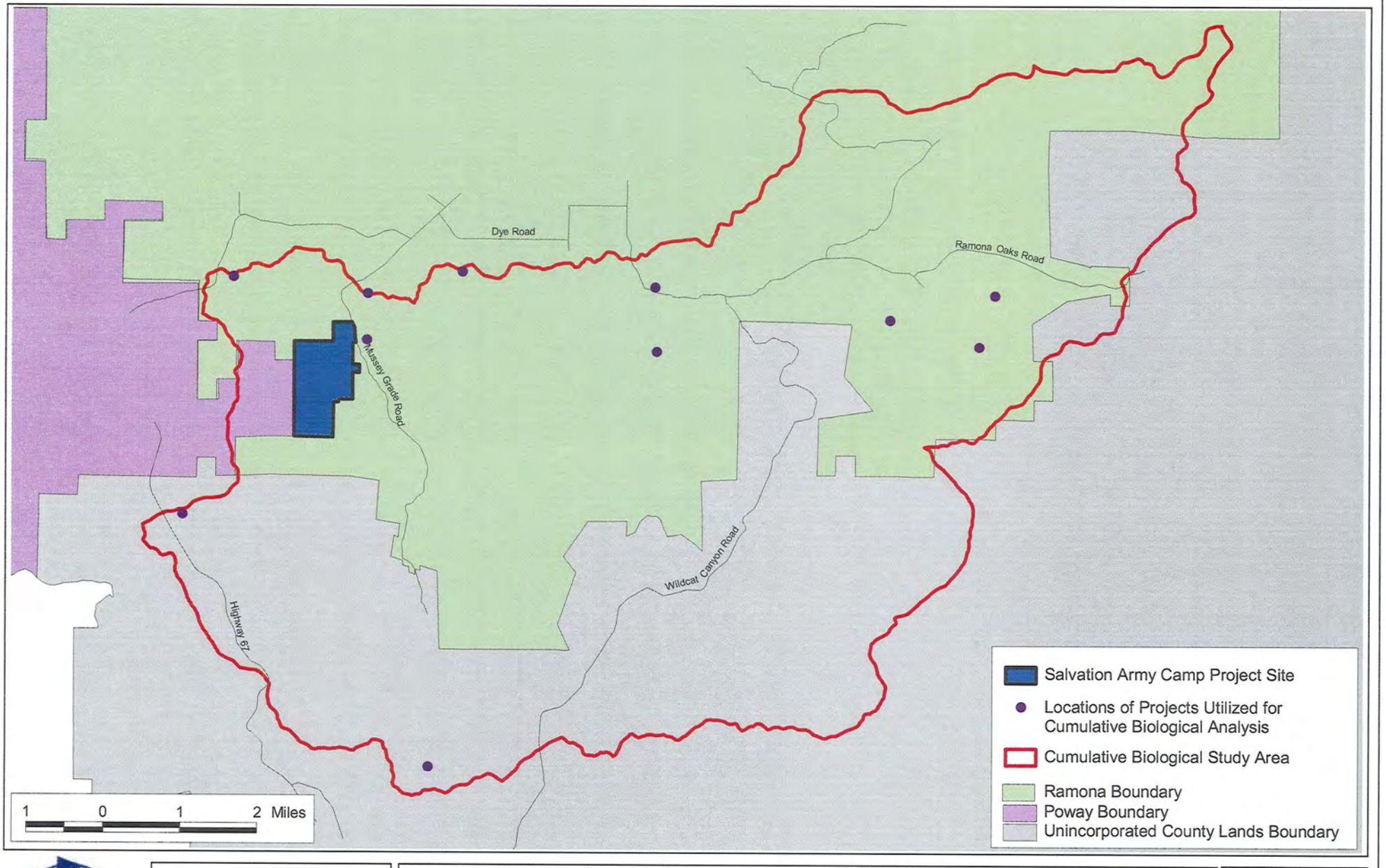
The MSCP is a comprehensive habitat conservation planning program which addresses multiple species habitat needs and the preservation of natural communities for a 900-square mile area in southwestern San Diego County (Ogden et al. 1995). The MSCP addresses the potential impacts of urban growth, loss of natural habitats, and species endangerment and develops a plan to mitigate for the loss of plant and wildlife species and habitat due to direct and indirect impacts of future development of both private and public lands. The MSCP's ultimate goals include: maintaining and enhancing biological diversity in the region and conserving viable populations of endangered, threatened, and key sensitive species and their habitats, thereby preventing local extinction; as well as, minimizing the need for future listings, while enabling economic growth in the region (City of San Diego 1995). The amount of habitat or the population size that is required for conservation was determined by a qualified biologist with knowledge of the species natural history. The determination of risk or preservation for a species was based on knowledge of existing populations and an analysis of alternative preserve scenarios which examined percent of known observations potentially affected, percent of major populations affected, amount of potential habitat affected, and other known risk factors (City of San Diego 1995). While projects within the MSCP that conform to MSCP standards should result in mitigation that reduce cumulative impacts to a level below considerable, the Camp lies on the northeastern edge of the County MSCP Subarea Plan boundary and a number of projects within the vicinity may not be subject to the MSCP. To ensure that cumulative biological impacts are sufficiently addressed in the Cumulative Impact Analysis Area, a project-based analysis has been completed for this project.

PROJECT BASED ANALYSIS

The project-based cumulative analysis includes an assessment of the known and expected future biological impacts (based on vegetation community loss) within the project vicinity. To establish a logical and discrete Cumulative Impact Analysis Area, we looked for a boundary with a biological basis. Since the biological characteristic of a region are largely influenced by geology, hydrology, and topography, it is believed that a boundary dictated by these influences will better serve the biological cumulative analysis than one based upon land use or jurisdictional boundaries. For the purposes of the biological cumulative analysis, the Cumulative Impact Analysis Area has been defined as the San Vicente Basin or Hydrologic Area of the San Diego River Watershed or San Diego Hydrologic Unit. This Hydrologic Area is a "major logical subdivision of a hydrologic unit ... best typified by a major tributary of a stream, a major valley, or a plain along a stream containing one or more ground water basins and having closely related geologic, hydrologic, and topographic characteristics" (California RWQCB 1994).

In identifying cumulative impacts, a list of discretionary projects within the Cumulative Impact Analysis Area was generated (from SANGIS , who received the information from the County) and County files were reviewed by M&A staff to acquire information about project-specific impacts and mitigation. In some instances, impact and mitigation information was not contained within the project files or the County staff could not locate the files. These projects have been excluded from the analysis due to lack of information. In other cases, impacts or mitigation are described textually,

referred to but not quantified, or were simply listed as less than significant; again, these projects are not included within the analysis due to lack of information. Although, our analysis began with a list of over 90 projects, after eliminating Certificates of Compliance, Administrative Permits, Variances, Rezones, Vacations, and projects for which no quantified information was available, we have a limited amount of project-by-project data. All projects within the Cumulative Impact Analysis Area for which some quantified impact or mitigation information was available are included within Table 12 and Figure 6. Project files which were consulted for this cumulative analysis, but lacked sufficient impact and mitigation information for inclusion in Table 12 included the following: Ramona Plaza Site Plan, Ramona Transmissions, Clody-AT&T Wireless Services, Boundary Adjustment No. B01-0212, Dog Kennel Property, Barona Road/ Nextel, Muth Valley Road, Freeman-Bramdi View Lane, Lot 16 of Fernbrook, Skylake Estates, Manley Brushing & Clearing Permit Exemption, Mahogany Ranch, Doshi minor Residential Subdivision TPM Z0669, Meadowood Project, Oak Woodlands Propane Tank-Greystone Homes, Landscape & Irrigation Plans for Fallbrook Auto Care, Federico-Sprint Cell Site, Archer 2nd Residence, James Mowry Building Permit, Whelan Cox/ Sprint PCS, Cingular Wireless/IHDE Telecom, San Diego County Estates Telecommunications, Rainbow Wireless Communication Site (Cox), Golden Eagle West, Zenovic Residence, Dale Lot Split Project, San Diego County Estates, Rancho San Vicente, Windmill Construction Rezoning Project, Chaffin Subdivisions, San Diego County Estates Equestrian Facility, Clover Hill Ranch, Hunt Residential Grading Permit, Barefoot, Robert Hunt 2nd Dwelling Unit, Shade Structure at Ramona Oaks Park, Mariani/Ramona Oaks Park, San Vicente Haciendas Condominium Conversion, San Vicente Ranch Unit 2, 19241, 7614309, 98-0204, 03-051, and RV0025.



Cumulative Biological Study Area and the Locations of Projects Utilized for the Cumulative Biological Analysis

Figure 6

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Table 12. Project-based Cumulative Impacts and Mitigation for Habitat Types Impacted by the Salvation Army Camp Project

	Vegetation Community Impacts and Mitigation											
	32500 Diegan Coastal Sage Scrub		37120 Southern Mixed Chaparral		37G00 Coastal Sage-Chaparral Scrub		42200 Non-Native Grassland		61310 Southern Coast Live Oak Riparian Forest		71160 Coast Live Oak Woodland	
Projects	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation	Impacts	Mitigation
Ramona Serena GPA	95.07	58.3									3.21	25.79
Rancho Canada									0.22	0.07	0.16	0.00
Rainbird Road	1.24	1.24										
KCBQ Broadcast Facilities			9.55	9.55	0.84	1.26	2.63	1.32			1.74	3.48
Ranganathan TPM			11.2	11.3							NQ	NQ
Reagan Open Space Easement Vacation			1.0	1.0								
Wildcat Canyon Road Enhancement	2.5	4.45	6.8	9.6					1.1	2.9	1.1	2.7
Borysewicz	0.40	0.60	26.37	26.37					0.34	0.68	0.41	0.82
Anastopolous Residence			0.13						0.01			
Preston Single-Family Residence	0.40						4.51					
Nextel Poway Creek Cellular Facility		0.17										

NQ = Not Quantified in County project files

The information provided for the project-by-project analysis may not reflect the ultimate habitat impact: mitigation ratio that is approved by the County. The County will require mitigation for each significant habitat impact that reduces the impact to a level below significant.

Impacts to vegetation communities form the primary basis for this cumulative biological impact analysis. Since species losses are largely due to habitat loss, it is expected that significant impacts to sensitive species would occur in conjunction with habitat loss and would be mitigated through habitat-based mitigation. Losses of vegetation communities, which are individually significant (on a project level) are also considered cumulatively considerable herein, as biological impacts are cumulative by nature and there has been a substantial decline in native habitats throughout the Southern California region.

Therefore, all impacts to Southern Mixed Chaparral, Diegan Coastal Sage Scrub, Coastal Sage-Chaparral Scrub, Non-Native Grasslands, Southern Coast Live Oak Riparian Forest, and Coast Live Oak Woodlands would be considered cumulatively considerable and require mitigation.

Impacts to Disturbed habitat, Non-Native Woodlands, or Urban/Developed lands are not considered individually significant, nor are they considered cumulatively considerable. These communities do not typically provide habitat for native species and have extremely limited biological value.

MITIGATION

HABITAT-BASED MITIGATION

The mitigation recommendations stated herein are intended to establish standards for application at a later date. If project design undergoes a change, which alters the impact analysis contained herein, additional mitigation measures should be developed to further mitigate significant impacts. In the event that additional species or habitats are listed as sensitive prior to project approval, alterations in the aforementioned significance determinations should be made in accordance with these changes.

Avoidance of impacts to sensitive biological resources is required whenever feasible. The site plan has been redesigned to avoid impacts to sensitive biological resources including wetlands, wetland buffers, oak woodlands, and Tier I habitats to the extent practicable. The Reduced Alternative Plans further reduce impacts through avoidance to the extent feasible. These plans minimize impacts to sensitive habitats and avoid impacts to the on-site wildlife corridor. The current plans are biologically superior to those previously considered for development of the site; however, the proposed development will still require mitigation for impacts to habitats and sensitive species.

All habitat-based mitigation must comply with the BMO. According to the BMO: "Any mitigation land occurring outside of BRCAs must demonstrate reasonable connectivity to extant open space patches and ability to sustain viable wildlife populations. Mitigation lands outside the BRCAs must provide in-kind or higher tier habitat values" (County of San Diego 1996). Mitigation that occurs within a BRCA (all on-site mitigation) will be subject to the reduced mitigation ratio provided in the BMO.

Tables 13a-13c indicate the required BMO mitigation by vegetation community for each of the project alternatives. Following the tables is a discussion of specifically what is proposed (by vegetation community and acreage) to mitigate habitat impacts. Following the vegetation community mitigation discussion is Table 14, which addresses jurisdictional wetland and Non-Wetland Waters/Streambed impacts and mitigation. (Mitigation for wetland impacts takes into account overlapping jurisdictions.)

Table 13a. Impacts to On-Site Vegetation Communities Under the Preferred Plan, Applicable Mitigation Ratios, and Proposed Mitigation[1]

Vegetation Communities	Existing On-site Acreage	Impacts under Preferred Plan (acres)[1]	Ratio	Required BMO Mitigation Acreage
Tier I				
Southern Coast Live Oak Riparian Forest	33.63	2.00[2]	2:1	4.00[2]
Southern Willow Scrub	0.73	0.00	2:1	0.00
Mule Fat Scrub	0.02	0.00	2:1	0.00
Emergent Wetland	0.03	0.00	2:1	0.00
Coast Live Oak Woodland	20.34	7.29[2]	2:1	14.58[2]
Mafic Southern Mixed Chaparral	6.48	0.00	2:1	0.00
Tier II				
Diegan Coastal Sage Scrub	16.43	13.12	1.5:1	19.68
Coastal Sage-Chaparral Scrub	46.23	9.26	1.5:1	13.89
Tier III				
Southern Mixed Chaparral	402.55	37.36	1:1	37.36
Non-Native Grasslands	22.83	12.45[3]	0.5:1	6.22[3]
Tier IV				
Non-Native Woodland	4.39	1.64	N/A	N/A
Disturbed	16.58	9.52	N/A	N/A
Urban/Developed	7.76	4.73	N/A	N/A
Totals	578.00	97.37		95.73

[1] Impacts as calculated in previous versions of this report and not reflective of the 2007 Fire Protection Plan requirements are shaded to indicate that the Preferred Plan is not an approvable project

[2] Includes impacts and mitigation for oak impacts within 25-foot buffer

[3] Includes impacts and mitigation from wetland creation site

Within the previous version of the biological report, impacts for Alternative Plan II were included within a Table 13c. These impacts were the same as Alternative Plan I with the exception of Southern Mixed Chaparral impacts, which were slightly lower (by a total of 0.97 acre) for Alternative Plan II. With the application of the 2007 Fire Protection Plan, Southern Mixed Chaparral impacts for both alternatives (I and II) increased and are now comparable; thus, impacts for both Alternatives are included within the Table 13b on the following page.

Table 13b. Impacts to On-Site Vegetation Communities Under Reduced Alternatives I and II including impacts from the 2007 Fire Protection Plan, Applicable Mitigation Ratios, and Proposed Mitigation

Vegetation Communities	Existing On-site Acreage	Impacts Alternative Plan I or II (acres)	Ratio	Required BMO Mitigation Acreage
Tier I				
Southern Coast Live Oak Riparian Forest	33.63	1.36[1]	2:1	2.72[1]
Southern Willow Scrub	0.73	0.00	2:1	0.00
Mule Fat Scrub	0.02	0.00	2:1	0.00
Emergent Wetland	0.03	0.00	2:1	0.00
Coast Live Oak Woodland	20.34	7.96[1]	2:1	15.92[1]
Mafic Southern Mixed Chaparral	6.48	0.00	2:1	0.00
Tier II				
Diegan Coastal Sage Scrub	16.43	12.29	1.5:1	18.44
Coastal Sage-Chaparral Scrub	46.23	8.18	1.5:1	12.27
Tier III				
Southern Mixed Chaparral	402.55	36.73	1:1	36.73
Non-Native Grasslands	22.83	12.41[2]	0.5:1	6.21[2]
Tier IV				
Non-Native Woodland	4.39	1.63	N/A	N/A
Disturbed	16.58	9.37	N/A	N/A
Urban/Developed	7.76	4.72	N/A	N/A
Totals	578.00	94.65		92.29

[1]Includes impacts and mitigation for oak impacts within 25-foot buffer

[2] Includes impacts and mitigation from wetland creation site

In accordance with the BMO, impacts to on-site oak woodlands must be mitigated at a 2:1 ratio as the mitigation site (on-site open space) meets the criteria for a BRCA. The importance of oak habitats to wildlife is underscored by the fact that at least 60 species of mammals (Barrett 1980) and 110 species of birds (Vener 1980) are known to utilize oak woodlands in California. Oak woodlands vary in terms of species composition, density, understory, and regeneration capacity. Recent evidence suggests that several species of oaks, including Engelmann Oak are not reproducing well in portions of their range (Giusti and Tinnin 1993). The amount of oak regeneration is very site-specific and may affect the value of impacted or preserved oak woodlands. When considering potential oak mitigation sites the local and regional context of the site as well as site-specific characteristics should be taken into consideration. Preserve lands should be well buffered from

existing or proposed development and should be at least in part contiguous with native vegetation communities. Also, oak woodlands must be large enough to regenerate. Preservation of high quality non-impacted oak woodlands in a dedicated open space easement on-site is proposed as mitigation. These woodlands are expected to be large enough to regenerate and maintain their current value.

Preservation and dedication of Tier II and/or Tier I habitats is proposed as mitigation for Diegan Coastal Sage Scrub and Coastal Sage-Chaparral Scrub (Tier II) impacts, which is in accordance with the BMO.

Impacts to Tier III habitats must be mitigated at a 1:1 ratio, as the mitigation site meets the criteria for a BRCA, except for Non-Native Grasslands, which are mitigated at a 0.5:1 ratio. The proposed (revised) open space easement includes more than enough Tier III lands to ensure adequate mitigation. The open space easement would contain only 0.81 acre of Non-Native Grasslands for mitigation; thus, the additional required grassland mitigation would consist of Southern Mixed Chaparral, which is of equal tier value and is allowable per the BMO.

In addition, impacts to Engelmann Oaks (Group D) would be mitigated on-site through preservation of oak woodlands. This approach complies with BMO direction that impacts to species in Groups C and D (Engelmann Oak is Group D) shall be protected using habitat-based (in this case oak woodland) mitigation.

JURISDICTIONAL WETLAND MITIGATION

According to the BMO, mitigation for wetlands must be in-kind at a 2:1 or 3:1 ratio depending upon the location of the impacts and mitigation relative to their BRCA status. Impacts to County jurisdictional wetlands, such as those on-site, that are drainages without hydrophytic vegetation or hydric soils require mitigation at a 2:1 ratio. Mitigation requirements for jurisdictional wetlands and Non-Wetland Waters are provided in Table 14, below.

Table 14. County Jurisdictional Wetland Impacts and Proposed Mitigation, Reduced Alternative Plan I and II Impacts and Mitigation are based on Updated 2007 RPO Jurisdictional Assessment

County Jurisdictional Wetlands	Preferred Plan Impacts[1]	Reduced Alternative I or II Impacts	Ratios	Mitigation
Southern Willow Scrub	0.00	0.00	3:1	No on-site creation required
Mule Fat Scrub	0.00	0.00	3:1	No on-site creation required
Emergent Wetland	0.00	0.00	3:1	No on-site creation required
Southern Coast Live Oak Riparian Forest	0.05	0.00	1:1 creation	0.05 acre on-site creation for the Preferred Plan No on-site creation required for the Reduced Alternatives
County Jurisdictional Drainages/Non-Wetland Waters/Streambed	0.17	0.03	2:1	0.34 on-site creation under the Preferred Plan 0.06 under either Alternative Plan
County Jurisdictional Wetlands Lumped/ Total	0.22	0.03		0.39 acre of on-site wetland creation for the Preferred Site Plan 0.06 acre of on-site wetland creation for the Reduced Alternative Plans

[1] Impacts as calculated in previous versions of this report and not reflective of the 2007 Fire Protection Plan requirements are shaded to indicate that the Preferred Plan is not an approvable project

The proposed RPO wetland mitigation, including wetland creation would reduce impacts to a level below significance.

Impacts to CDFG jurisdictional wetlands and Streambeds and ACOE jurisdictional wetlands and Non-Wetland Waters would also require mitigation which ensures no net loss of wetland functions and values. Under the Reduced Alternatives there would be only 0.13 acre of impacts to ACOE jurisdictional Non-Wetland Waters, 1.36 acres of CDFG jurisdictional Southern Coast Live Oak Riparian Forest, and 0.15 acre of Streambeds (totaling 0.13 acre of ACOE impacts and 1.51 acres of CDFG jurisdictional impacts). Wetland mitigation imposed by the Resource Agencies for CDFG and/or ACOE jurisdictional impacts would be tied to subsequent permits issued by those agencies.

On-site creation of wetland habitat is proposed to satisfy the County wetland mitigation requirements detailed above. Creation would occur in the northern portion of the project site within Non-Native Grassland habitat adjacent to riparian areas associated with the West Fork of San Vicente Creek. The creation site lies within low lying areas adjacent to the riparian corridor at the northern portion of the project site and would connect into existing wetlands. Proposed wetland mitigation within this wildlife corridor area would not preclude conformance with the BMO or negatively impact MSCP findings for the project (D. Dickman pers. com). The proposed wetland mitigation actions within this wetland buffer area would be allowable under the RPO, as permitted uses in wetlands and wetland buffers include "wetland restoration projects where the primary function is restoration of the habitat" (County of San Diego 2007).

The proposed mitigation site is located in a lower-lying area and consists completely of non-wetland indicator species, such as Milk-thistle and Radish; it appears to have more mesic conditions but the

wetland delineation did not identify this area as a wetland. Approximately 0.47 acre of grassland habitat is available for creation of wetland habitats. The creation site lies immediately adjacent to Southern Coast Live Oak Riparian Forest and it is anticipated that some wetland creation activities may occur within the dripline of these oaks. However, this has not been called out as an impact as revegetation of a non-native vegetation area with native species is not expected to impact the existing oaks and will likely provide a long-term benefit.

Based on the analysis of wetland impacts and required mitigation, it may be very difficult to achieve on-site mitigation success under the Preferred Site Plan. The total mitigation acreage required is 0.39 acre and the available area is 0.47 acre. The expected staging area would occupy 900 square feet (0.02 acre), on the eastern side of the identified wetland mitigation area.

The Reduced Alternatives are highly preferable as the available mitigation site is expected to provide sufficient area for a well designed mitigation site, including a 900 square foot staging area, with good potential to achieve success criteria.

A conceptual wetland revegetation plan has been prepared for the site and provided to the County under a separate cover. It is recommended that all the wetland mitigation be completed within Phase I of project development to mitigate adequately for unavoidable temporal losses of habitat. Prior to grading or clearing, the applicant will need to show that all required state and federal wetland permits have been obtained. A list of recommended restoration materials is included below (Table 15), and is addressed more fully in the Conceptual Revegetation Plan. Species with high success potential, based on existing habitat characteristics and flora have been selected.

Table 15. Recommended Wetland Mitigation Site Plant Materials, Unit Size, and Density

Species	**Unit Size/Type**	**Density**
Arroyo Willow (*Salix lasiolepis*)	1 gallon	8 foot centers
Sandbar Willow (*Salix exigua*)	1 gallon	7 foot centers
Mule Fat (*Baccharis salicifolia*)	1 gallon	7 foot centers
Douglas Mugwort (*Artemisia douglasiana*)	Liner	3 foot centers
California Blackberry (*Rubus ursinus*)	1 gallon	5 foot centers
San Diego Sagewort (*Artemisia palmeri*)	Liner	3 foot centers
San Diego Sedge (*Carex spissa*)	1 gallon	5 foot centers
Willow Herb (*Epilobium cilatum*)	Liner	3 foot centers
Western Sycamore (*Platanus racemosa*)	15 gallon	30 foot centers
Fremont Cottonwood (*Populus fremontii*)	5 gallon	15 foot centers
Coast Live Oak (*Quercus agrifolia*)	15 gallon	15 foot centers
Engelmann Oak (*Quercus engelmannii*)	5 gallon	15 foot centers
Skunkbrush (*Rhus trilobata*)	1 gallon	5 foot centers
California Rose (*Rosa californica*)	1 gallon	5 foot centers
Blue Elderberry (*Sambucus mexicana*)	1 gallon	6 foot centers
California Goldenrod (*Solidago californica*)	Liner	3 foot centers
Fendlers Meadow-rue (*Thalictrum fendleri var. polycarpum*)	1 gallon	3 foot centers
Poison Oak (*Toxicodendron diversilobum*)	1 gallon	3 foot centers

This wetland mitigation analysis does not specifically address mitigation and/or permit requirements, which may be imposed by the resource agencies. Typically, such requirements are established through the permitting process, and are typically site specific and in some instances, negotiable.

ADDITIONAL MITIGATION REQUIREMENTS

In addition to the ordinance required, habitat- or species-based mitigation, CEQA compliance may necessitate mitigation measures, which are unique to the project due to the project's size, location, function, or existing conditions. The discussion below details mitigation requirements or recommendations based on project specific elements or conditions.

Education Center Recommendations to Minimize Impacts to Native Vegetation Communities

County staff expressed concerns regarding impacts from the educational activities focusing on native habitats. Direct and indirect impacts to native habitats from environmental education activities are expected to be minimal or undetectable and the benefits of such activities are expected to outweigh impacts. According to information provided by the Salvation Army staff, the proposed Education Center activities will include day hikes along existing trails, classroom (indoor) activities that expose children to environmental education topics, and use indoor (non-live) educational nature displays. No night hikes are proposed and no collection of native plants or animals is proposed. Environmental education programs frequently use a number of activities and games to focus attention on ecological processes or habitats without impacting the actual habitat or subject area. Hikes teach students to understand the local ecosystem and/or identify plants and animals without impacts, aside from the area lost to the trail, which in this case, already exists. Based on review of the project site, the Salvation Army Camp staff maintains their trails in an excellent manner. No evidence of trash or

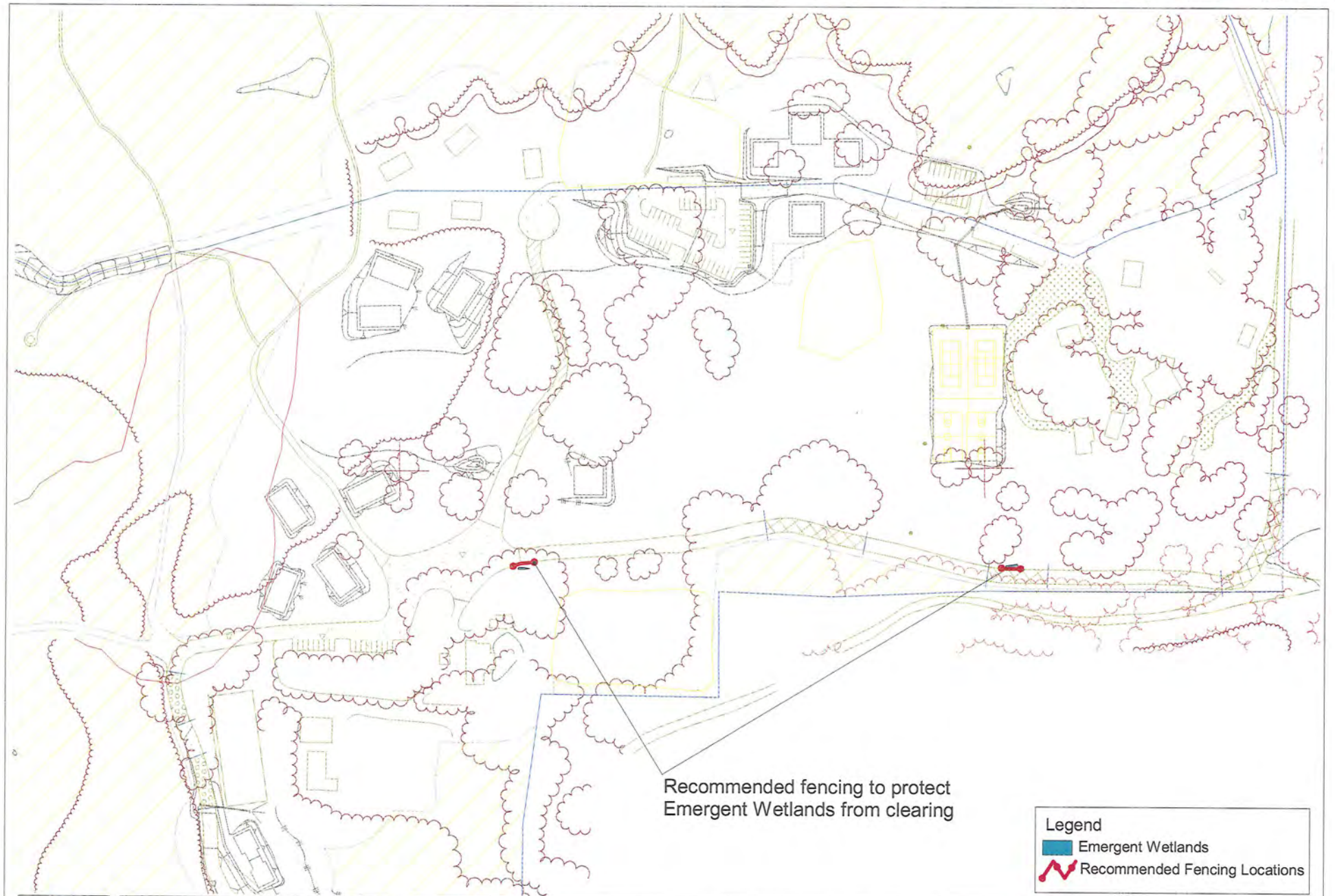
erosion control issues was noted during any of the site visits and trails (with the exception of the cross trail) are typically only wide enough to accommodate single track hikes.

To help achieve a better understanding and appreciation of the native environments and prevent human intrusion, it is recommended that educational placards line the edge of the native habitats in the vicinity of the education center. These signs should include information about the native habitats, expected species, sensitive species, ecological processes, and/or the importance of minimizing edge. It is also recommended that all groups be provided with an initial site orientation that delineates the areas of acceptable use (as considered impacted in this document) from native habitats; familiarizes them with the locations of approved, existing trails for hiking; and emphasizes the importance of ecologically responsible behavior on-site. If implemented, this measure should help to contain indirect human effects to impacted areas appropriately mitigated through the discretionary process for this project.

Protection of Wetlands from Construction and Fire Clearing Impacts

As discussed earlier, Emergent Wetland occurs in 2 locations within the Preferred or Reduced Alternative Plans' development bubble. The Emergent Wetland areas are not within the direct construction footprint, but lie within 10 feet of roadways, thus they fall within roadway fire clearing areas. However, wetland areas do not require fire clearing. Thus, to prevent unnecessary temporary impacts, fencing will be erected to delineate the portions of this community that face the road (Design Feature 22). Temporary construction fencing and monitoring shall be maintained throughout the construction period to prevent inadvertent impacts.

In addition, Permanent split-rail fencing shall be installed and maintained following construction (Design Feature 22). The locations of the fencing areas are shown on Figure 7. The fencing will delineate the boundary of these environmentally sensitive areas and will include signs that mark these areas as "sensitive areas that do not require and shall not be subject to clearing or trampling of any sort".



Recommended Fencing to Avoid Wetland Impacts

Figure 7

Biological Open Space Easement

This report proposes inclusion of an on-site "Dedicated" biological open space easement as mitigation for impacts under either the Proposed or Reduced Alternative Plans. The easements, which differ in configuration for the Preferred and Reduced Alternative Plans, are shown on the Biological Resources Maps; however, only the Reduced Alternative Plans are current and approvable. They have been designed to achieve the necessary habitat-based mitigation for the project and, in the case of the Reduced Alternatives Plans' easement, protect the on-site corridor and minimize edge effects. In addition, it is important that the on-site open space easements be biologically connected to one another and to off-site preserve land. It is not necessary that all the undeveloped land within the project area be placed into an open space easement to achieve this connectivity, but there can be no preclusion of connectivity due to proposed or existing development or disturbance. The open space easement designed for the Preferred Plan is located to the north and the west of proposed and existing development and connects with off-site preserve lands to the west. Similarly, the open space designed for implementation under either Reduced Alternative Plan provides for uninterrupted native habitats throughout the western and northern portions of the project that connect to off-site preserve lands and undeveloped lands.

Both on-site open space easements contain trails that are not expected to receive heavy use and would not conflict with the goals of the open space easement. The easements contain more acreage than is required to mitigate project impacts, as it was necessary to achieve connectivity, preservation of a variety of on-site communities, and minimize the amount of open space edge. The additional, unused acreage will be credited to the Salvation Army Camp for mitigation use at a later time. To maintain credit for the excess mitigation acreage, the open space easements must be properly maintained, managed, and protected. The total amount of open space acreage, the total required for current project mitigation, and the additional "unused" open space acreage are quantified in Tables 16a, 16b, and 16c.

Table 16a. Preferred Plan Habitat-based Mitigation and Open Space Easement Constituents[1]

Habitat Tier (I-IV)	Vegetation Communities	Holland Code	Required Mitigation (acres) [1]	Open Space Easement (acres)
I	Southern Willow Scrub	63320	0.00	0.67
I	Emergent Wetland		0.00	0.01
I	Southern Coast Live Oak Riparian Forest	61310	4.00	14.59
I	Coast Live Oak Woodland	71160	14.58	4.00
	Oak Woodlands Combined		*18.58*	*18.59*
	Tier I Habitats Combined		**18.58**	**19.27**
I	Mafic Southern Mixed Chaparral	37122	0.00	6.46
II	Diegan Coastal Sage Scrub	32500	19.68	0.05
II	Coastal Sage-Chaparral Scrub	37G00	13.89	28.85
	Scrub and Tier I Chaparral Combined		**33.57**	**35.36**
III	Southern Mixed Chaparral	37120	37.36	223.19
III	Non-Native Grasslands	42200	6.23	0.23
	Tier III Habitats Combined		**43.53**	**223.42**
IV	Disturbed	11300	0.00	0.72
IV	Urban/Developed	12000	0.00	0.03
	Totals		**95.74**	**278.80**

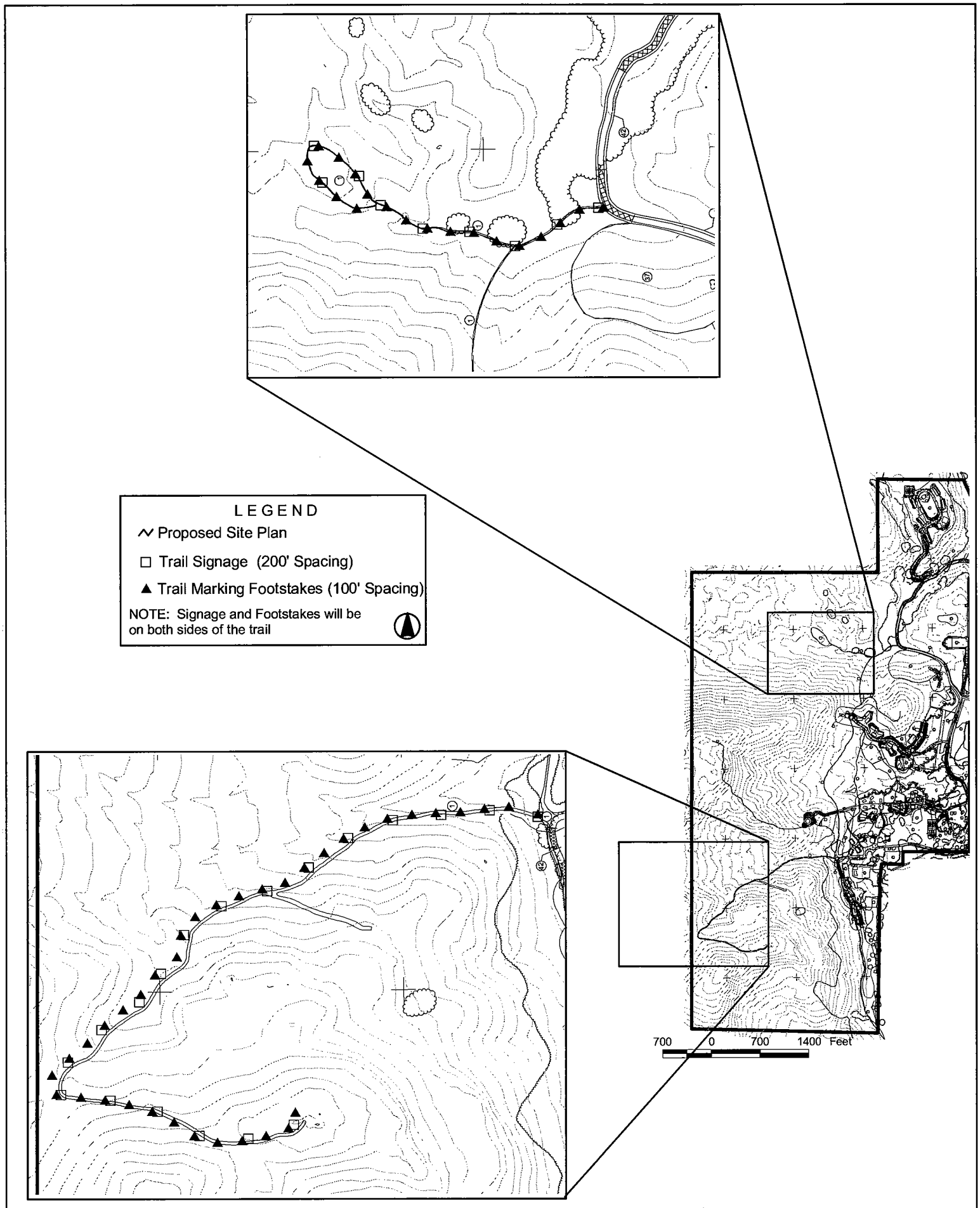
[1] Mitigation requirements as calculated in previous versions of this report and not reflective of the 2007 Fire Protection Plan requirements are shaded to indicate that the Preferred Plan is not an approvable project

Table 16b. Alternative I or II Habitat-based Mitigation and Open Space Easement Constituents

Habitat Tier (I-IV)	Vegetation Communities	Holland Code	Required Mitigation (acres)	Open Space Easement (acres)
I	Southern Willow Scrub	63320	0.00	0.74
I	Mule Fat Scrub	63310	0.00	0.02
I	Emergent Wetland	52440	0.00	0.01
I	Southern Coast Live Oak Riparian Forest	61310	2.72	27.36
I	Coast Live Oak Woodland	71160	15.92	3.65
	Oak Woodlands Combined		*18.64*	*31.01*
	Tier I Habitats Combined		**18.64**	**31.78**
I	Mafic Southern Mixed Chaparral	37122	0.00	6.42
II	Diegan Coastal Sage Scrub	32500	18.44	4.60
II	Coastal Sage-Chaparral Scrub	37G00	13.20	30.17
	Scrub and Tier I Chaparral Combined		**31.64**	**41.19**
III	Southern Mixed Chaparral	37120	36.73	318.30
III	Non-Native Grasslands	42200	6.21	0.81
	Tier III Habitats Combined		**42.94**	**319.11**
IV	Non-Native Woodland	11000	0.00	0.01
IV	Disturbed	11300	0.00	3.31
IV	Urban/Developed	12000	0.00	0.17
	Tier III Habitats Combined		**0.00**	**3.49**
	Totals		**93.22**	**395.57**

If the proposed open space easement is to function properly as mitigation, it will need not only to be preserved but also managed in perpetuity. To assume that vegetation communities are static systems would be faulted. Temporal vegetation community shifts may alter the suitability of areas for some species over time. The level of disturbance within an area may change (including fire frequency) and micro-habitat alterations initiated by resident species may cease if a local or regional corridor has limited capacity to support resident populations. Taking these things, as well as edge effects, into consideration, the proposed open space easements should be managed to contribute to the goals of the MSCP and maximize diversity and abundance where appropriate. A Habitat Management Plan (HMP) must be prepared and submitted to the County prior to grading, clearing, or use/reliance on the Use Permit (Design Feature 2). A Habitat Manager must be selected and named within the HMP and is subject to approval by the County. The ownership of the land may not change. An easement will be dedicated to the County and the land within the easement will be managed by an appropriate habitat manager, pursuant to an approved HMP (D. Dickman 2002).

The Reduced Alternative easement preserves the entire length of the on-site corridor, providing connectivity through the project site from the proposed and existing open space areas west of the project site to the wildlife underpass at Mussey Grade Road. Both open space easements contain all of the Group A and B sensitive plant species populations on-site and on-site Mafic Southern Mixed Chaparral (Tier I habitat). Specific Design Features to protect sensitive plant species that occur along the open space trail routes, to limit human intrusion into native habitats, and to prevent disturbance of the Golden Eagle nest site have been incorporated into the project. The footstakes and signage described in the Design Features should be installed in accordance with Figure 8. The signs will delineate the area beyond the footstakes as sensitive and will, in some manner, ask trail user to restrict their activities to the marked trail to support the continued presence of diverse and sensitive flora and fauna. The Salvation Army Camp or open space management entity will be responsible for maintaining the signs and footstakes and enforcing the policy.



Salvation Army Camp

Trail Impact Mitigation Map

Melissa A. Booker
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Figure 8

CUMULATIVE IMPACT MITIGATION

The project's proposed impacts to native habitats are considered cumulatively considerable. Project specific mitigation requirements (for this project and others in the region) are directly related to cumulative losses in the region and mitigation ratios have been established, not based upon project-specific analyses alone, but on regional biological maintenance goals. Therefore, it is expected that compliance with the established habitat-based (in-kind) mitigation ratios within the region will sufficiently mitigate cumulative losses to a level below considerable. This project's fair share contribution to mitigate cumulative losses would be achieved through project-specific mitigation, as outlined in the previous text and tables.

Where habitat-based mitigation complies with the required ratios, but is out-of-kind, it is necessary to demonstrate that the out-of-kind habitat-based mitigation would not prevent achievement of regional biological maintenance goals or result in cumulatively considerable impacts to species associated with the impacted habitat that would not be adequately mitigated through out-of-kind mitigation. Therefore, the following discussion addresses the project's proposed out-of-kind mitigation and provides the biological basis for its acceptability on a cumulative analysis level.

The project proposes out-of-kind mitigation for Non-Native Grasslands, Coastal Sage-Chaparral Scrub, Diegan Coastal Sage Scrub, and Coast Live Oak Woodland. In the case of Non-Native Grasslands, the on-site areas mapped as grasslands, are of very limited biological value. They occur within areas of previous disturbance and are mowed on a regular basis. These areas do not show evidence of diverse or abundant small mammal populations, nesting avian species, or raptor foraging. Furthermore, although grasslands are important within the Ramona region, the project's grasslands are isolated from Ramona's high quality grasslands, which support numerous raptors and the Stephen's Kangaroo Rat, unlike the project area. The project proposes to mitigate impacts to grasslands through preservation of on-site chaparral (and small area of Non-Native Grasslands). Since the biological value of the on-site chaparral is superior to the on-site grasslands, this mitigation is biologically appropriate. As stated, the grasslands do not support a suite of grassland-associated species or any sensitive species and the on-site chaparral is expected to provide more potential for raptor foraging (particularly for Golden Eagle).

Impacts to Diegan Coastal Sage Scrub would be mitigated in part with in-kind mitigation, but a portion of the mitigation would be out-of-kind, through preservation of Mafic Southern Mixed and Chaparral Coastal Sage-Chaparral Scrub. There are on-site areas of sage scrub, which have not been identified for preservation within the open space easement, due to their location adjacent to proposed development or their isolation through existing disturbance. Instead, preservation of Mafic Southern Mixed Chaparral is proposed as mitigation, due to its similar biological values and its sensitive nature. The on-site Mafic Southern Mixed Chaparral supports several sensitive plants species and is, in comparison to Southern Mixed Chaparral or Chamise Chaparral, a relatively open chaparral community with similar biological values and functions to Coastal Sage-Chaparral Scrub. The project site's sage scrub does not support sage scrub associates, such as California Gnatcatcher and Cactus Wren, and although Orange-throated Whiptail was detected on-site, the population appears to be small. Those species utilizing sage scrub on-site are all expected to also utilize chaparral.

Project impacts to Coast Live Oak Woodland would be mitigated through preservation of on-site Southern Coast Live Oak Riparian Forest. Since the on-site Coast Live Oak Woodlands proposed for impacts are generally isolated within the Camp's existing use areas and are surrounded by the mowed grasslands, they have lower biological value than the site's Southern Coast Live Oak Riparian Forest.

The riparian forest habitat is expected to support the greatest diversity and abundance of wildlife species on-site and is a local corridor constituent. There are no known species associated with Coast Live Oak Woodland that would not benefit from the preservation of the riparian forest and due to the riparian forest's location within the local corridor, a variety of species that are not specifically associated with this habitat may still benefit from its preservation, as it provides an avenue (cover) for local movements.

As outlined above, the out-of-kind mitigation proposed for the project is expected to provide an equal or greater biological benefit (to the suite of species present on-site) than in-kind mitigation would. Preservation of habitats within the local corridor that support the same suites of species (as those impacted) and have comparable functions and values to those impacted is expected to provide a fair share contribution to the mitigation of cumulatively considerable impacts.

Finally, the proposed project impacts and mitigation are not expected to preclude successful regional Coastal Sage Scrub planning efforts within the Cumulative Impact Analysis Area under the Southern California Coastal Sage Scrub NCCP Process Guidelines.

RPO, MSCP, AND BMO CONFORMANCE

The project's consistency with applicable County policies and ordinances has been evaluated here under the assumption that the recommended avoidance, minimization, and mitigation measures contained herein will be incorporated into the project. If the project ultimately does not include these measures, the project's consistency with the MSCP, BMO, and RPO may be altered. County staff makes the final determination regarding consistency and compliance based on information provided in this report and the project EIR. County MSCP findings have not been reiterated here to avoid the implication that findings were made herein. Therefore, MSCP, RPO, and BMO compliance is only discussed where County discretion does not play a substantial role in the compliance determination.

The RPO includes restrictions on development within wetlands; however, to avoid triggering an exemption from the RPO some wetland impacts may be allowed. These impacts must be minimized but are allowable to permit use of the property. Since what is allowable is a discretionary decision by the County staff it is discussed in their findings and the EIR. From a biological perspective, efforts have been made to reduce and minimize wetland impacts, particularly under the Reduced Alternative Plans.

Within the Metro-Lakeside-Jamul Segment take of covered species is authorized based upon a project's satisfaction of the requirements of the BMO and conformance with the Subarea Plan. No preserve boundaries have been developed for the Metro-Lakeside Jamul Segment. In an effort to encourage mitigation that meets the anticipated conservation levels, the County has developed mitigation ratios with reduced requirements for projects that contribute to meeting the levels. The resource agencies developed a map (MSCP Figure 1), which depicts areas that are pre-approved as meeting the County's Subarea Plan conservation goals. BRCA lands are defined by the criteria set forth in Article IV of the BMO. Having the designation of Pre-approved Mitigation Area is just one of the criteria that results in a BRCA designation. It is the BRCA status that determines the mitigation ratios for a project. A reduced mitigation requirement is reflected in the BMO mitigation table, under mitigation within a BRCA. Since mitigation would occur on-site (within a BRCA), it qualifies for the BMO reduced mitigation ratios.

Project impacts may not preclude attainment of the goals set forth in Tables 1-2, 4-2, and 4-3 of the MSCP. It is believed that the proposed project complies with these MSCP consistency requirements as it meets the BMO mitigation requirements for species and habitats. Specifically, the habitat-based mitigation recommended within this document would result in project compliance with the BMO and MSCP for impacts to vegetation communities and the following covered species: San Diego Horned Lizard, Orange-throated Whiptail, Southern California Rufous-crowned Sparrow, and Mountain Lion. Additional conditions of coverage apply for Cooper's Hawk, Golden Eagle, and some covered plant species. The project should include an impact avoidance area of 300 feet from any Cooper's Hawk nest site and 4,000 feet from a Golden Eagle nest site. The project would achieve these goals based on the Preferred Plan or Reduced Alternative Plans impact analyses and the known nest site data.

Narrow endemic plants known from Metro-Lakeside Jamul Segment include San Diego Thornmint, San Diego Ambrosia (*Ambrosia pumila*), Encinitas Baccharis, Lakeside Lilac, Variegated Dudleya (*Dudleya variegata*), Palmer's Ericamera (*Ericameria palmeri* ssp. *palmeri*), Heart-leaved Pitcher Sage, and Dehesa Bear Grass (*Nolina interrata*). None of these narrow endemics would be impacted by the proposed project. Also, the project would not impact any critical populations of covered species within the vicinity, including the Orcutt's Brodiaea population north of San Vicente Reservoir, Felt-leaved Monardella at Iron Mountain, and Narrow-leaved Nightshade (*Solanum tenuilobatum*) in Fernbrook. The project is, therefore, in compliance with the MSCP regarding covered plant species.

Rare, narrow endemic animal species known from the project region include the Golden Eagle and Arroyo Toad. Impacts to the toad are not anticipated, as suitable habitat does not occur on-site. As stated previously, the project (either plan) complies with conditions of coverage for the Golden Eagle. The Quino Checkerspot Butterfly, a rare, narrow endemic, and federally endangered species, is known from the region; however, focused surveys were completed and the findings were negative.

Information relevant to BMO Attachment H "for findings that must be made regarding linkages and corridors" was provided previously under the wildlife corridor discussion.

The BMO also requires that impacts to land determined to be a BRCA be avoided to the maximum extent practicable through application of project design (impact-avoidance) criteria. The criteria include clustering and siting development within areas that minimize impacts. The Preferred Plan does not comply with these criteria as the location of the retreat center under this alternative would result in wetland, corridor, and habitat impacts avoided under the alternatives, as well as increased edge effects. The alternatives both appear to comply with the BMO design criteria.

PREPARER'S QUALIFICATIONS

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Ms. Booker has 16 years of professional biological experience and 14 years of experience in southern California. She is a Wildlife Society Certified Professional Wildlife Biologist. She has extensive expertise in endangered species surveying, monitoring, and recovery; ornithology; and urban wildlife issues. She authored numerous biological technical reports, most for the purposes of CEQA documentation. She has also served as an expert witness in federal court (in her capacity as a wildlife biologist). Her broad range of experience includes threatened and endangered faunal species surveys and monitoring, avian nest and winter monitoring, land and wildlife management plan preparation, assessment of potential significant impacts to biological resources under CEQA, and design or assessment of mitigation measures to ensure appropriate impact reduction under CEQA.

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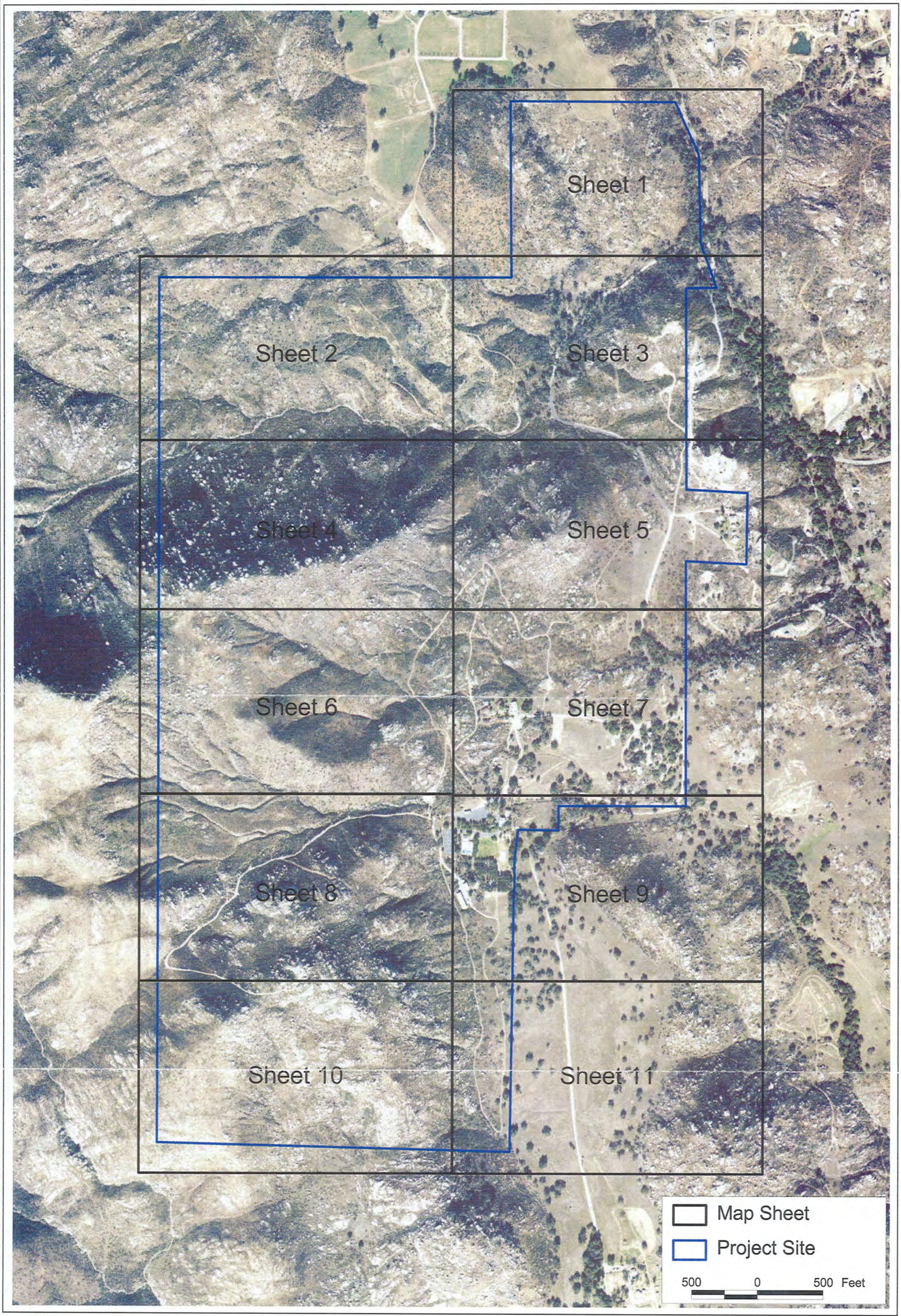
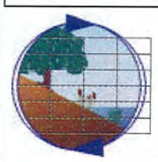
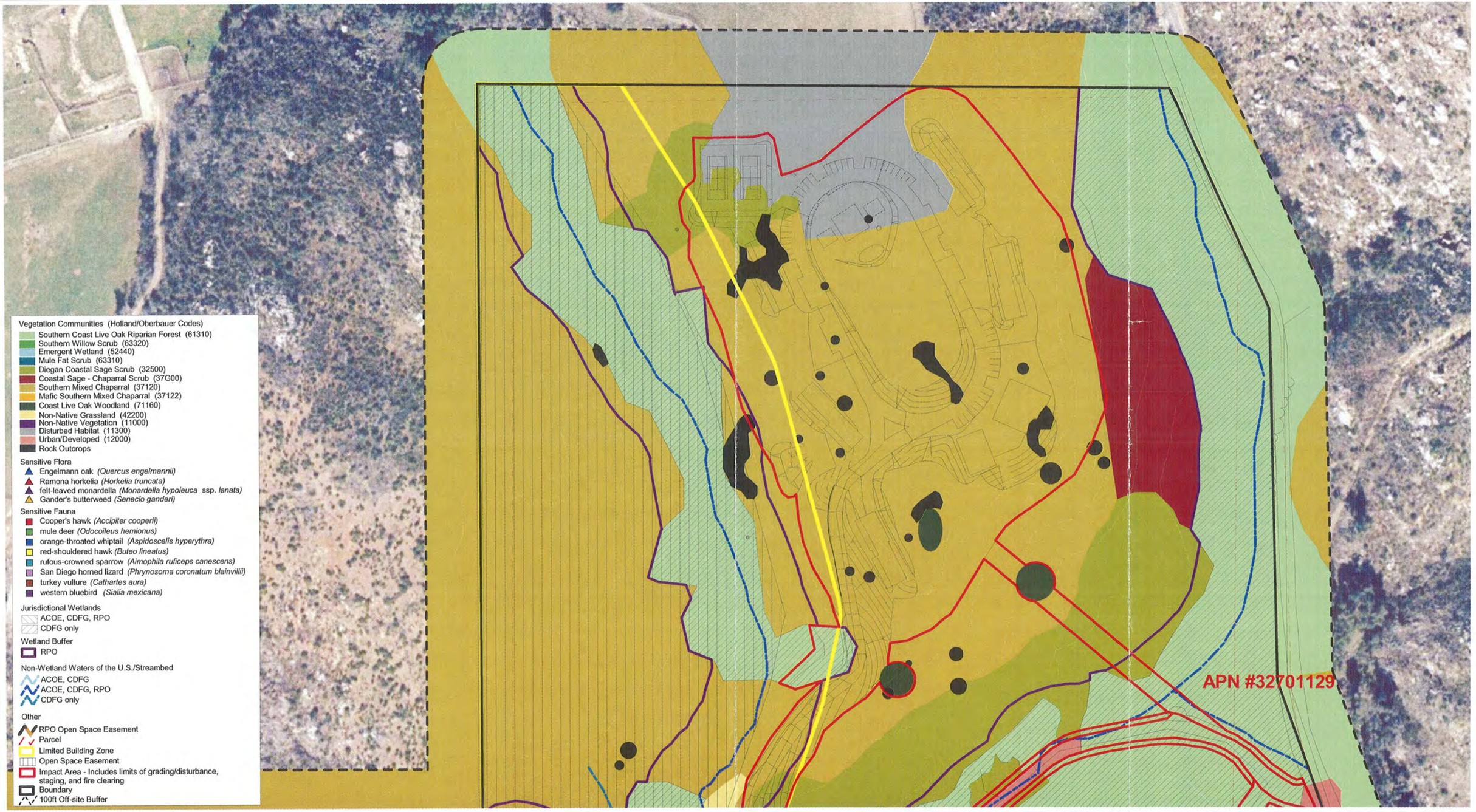


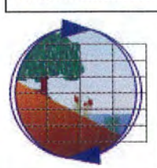


Locator Map

Salvation Army Divisional Camp and Retreat

Merkel & Associates, Inc.





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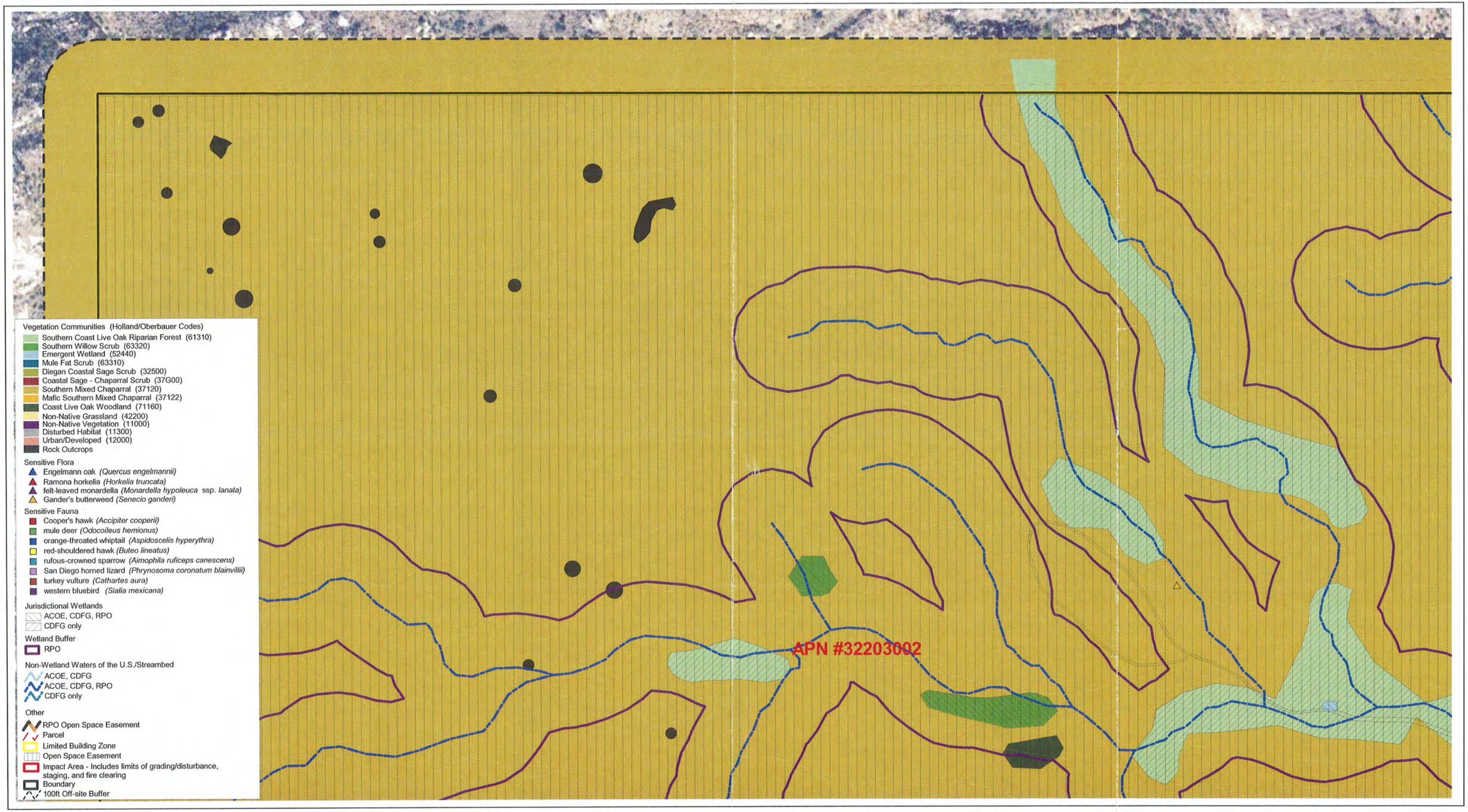
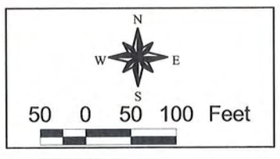
Biological Resources Map

Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 1





Biological Resources Map

Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 2

APN #32203010

Vegetation Communities (Holland/Oberbauer Codes)
- Southern Coast Live Oak Riparian Forest (61310)
- Southern Willow Scrub (63320)
- Emergent Wetland (52440)
- Mule Fat Scrub (63310)
- Diegan Coastal Sage Scrub (32500)
- Coastal Sage - Chaparral Scrub (37G00)
- Southern Mixed Chaparral (37120)
- Mafic Southern Mixed Chaparral (37122)
- Coast Live Oak Woodland (71160)
- Non-Native Grassland (42200)
- Non-Native Vegetation (11000)
- Disturbed Habitat (11300)
- Urban/Developed (12000)
- Rock Outcrops

Sensitive Flora
- Engelmann oak *(Quercus engelmannii)*
- Ramona horkelia *(Horkelia truncata)*
- felt-leaved monardella *(Monardella hypoleuca* ssp. *lanata)*
- Gander's butterweed *(Senecio ganderi)*

Sensitive Fauna
- Cooper's hawk *(Accipiter cooperii)*
- mule deer *(Odocoileus hemionus)*
- orange-throated whiptail *(Aspidoscelis hyperythra)*
- red-shouldered hawk *(Buteo lineatus)*
- rufous-crowned sparrow *(Aimophila ruficeps canescens)*
- San Diego horned lizard *(Phrynosoma coronatum blainvillii)*
- turkey vulture *(Cathartes aura)*
- western bluebird *(Sialia mexicana)*

Jurisdictional Wetlands
- ACOE, CDFG, RPO
- CDFG only

Wetland Buffer
- RPO

Non-Wetland Waters of the U.S./Streambed
- ACOE, CDFG
- ACOE, CDFG, RPO
- CDFG only

Other
- RPO Open Space Easement
- Parcel
- Limited Building Zone
- Open Space Easement
- Impact Area - Includes limits of grading/disturbance, staging, and fire clearing
- Boundary
- 100ft Off-site Buffer

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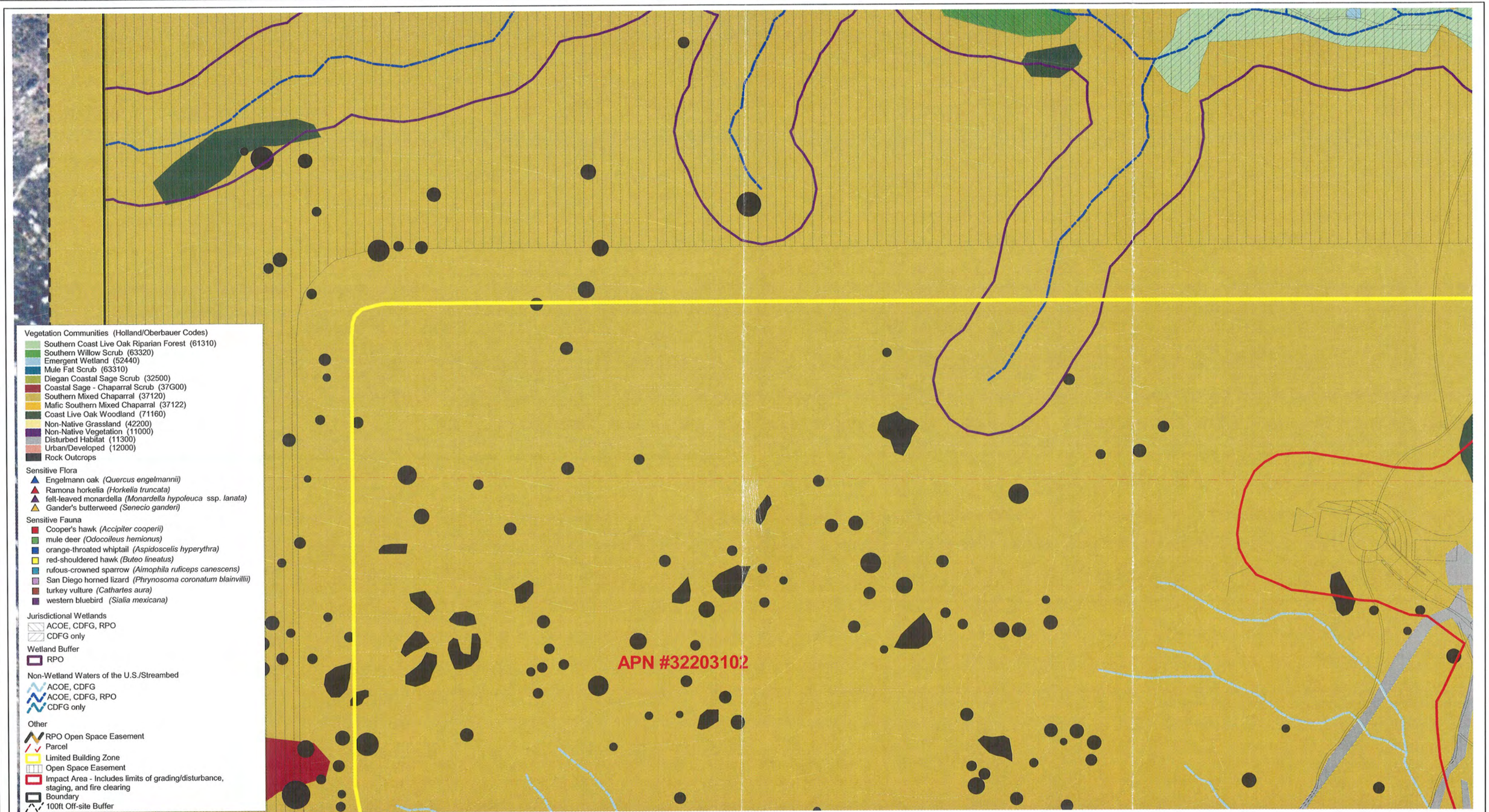
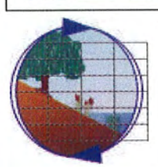
Biological Resources Map
Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 3





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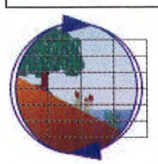
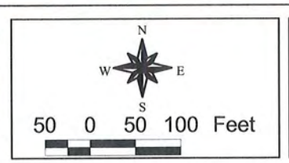
Biological Resources Map

Salvation Army Divisional Camp and Retreat Proposed Plan

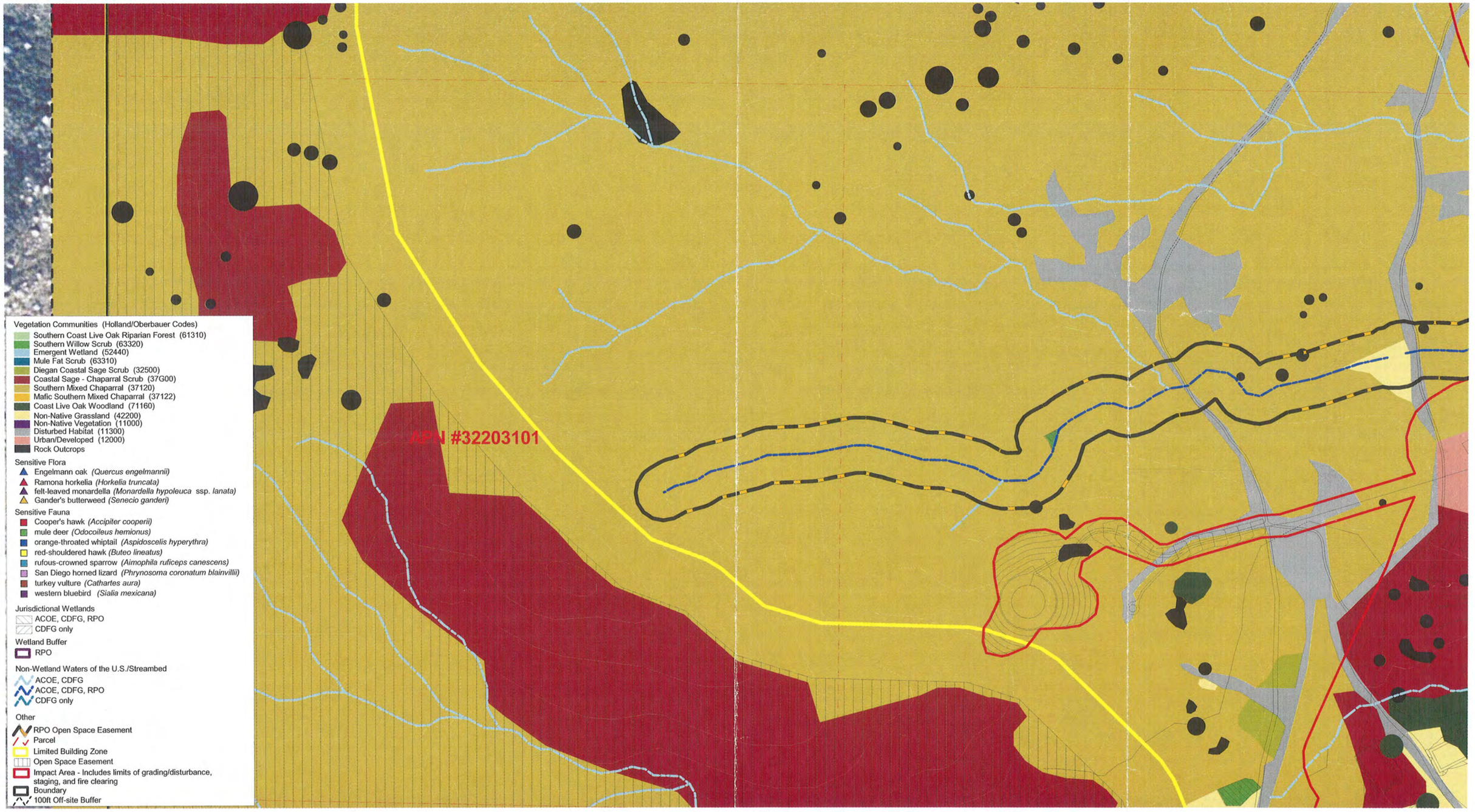
Figure 2a
Sheet 4

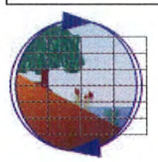


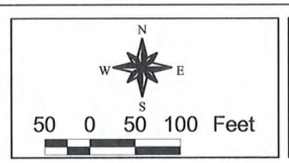


Biological Resources Map
Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 5

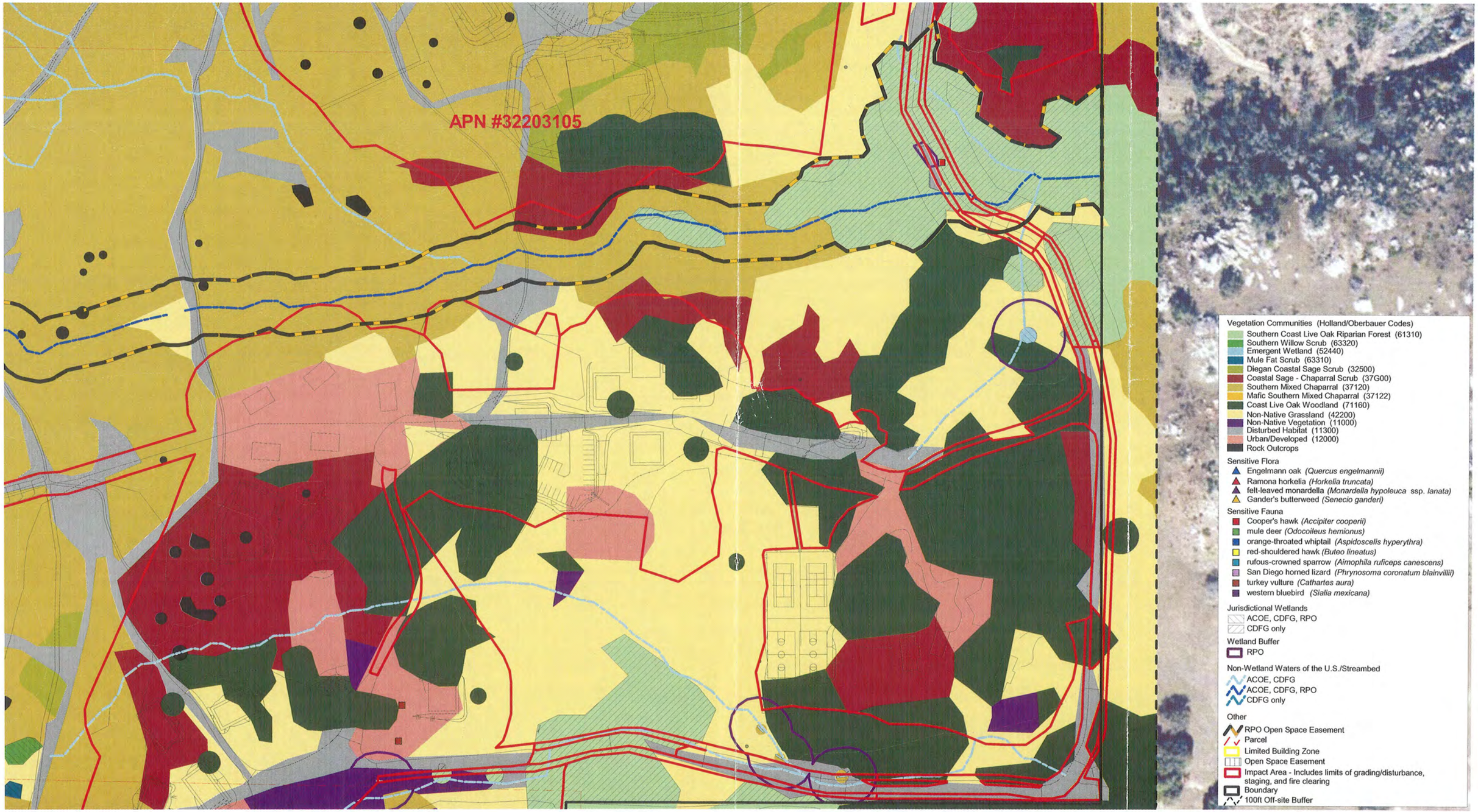


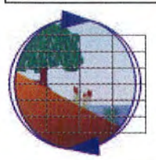




Biological Resources Map
Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 6





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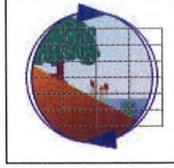
Biological Resources Map
Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 7



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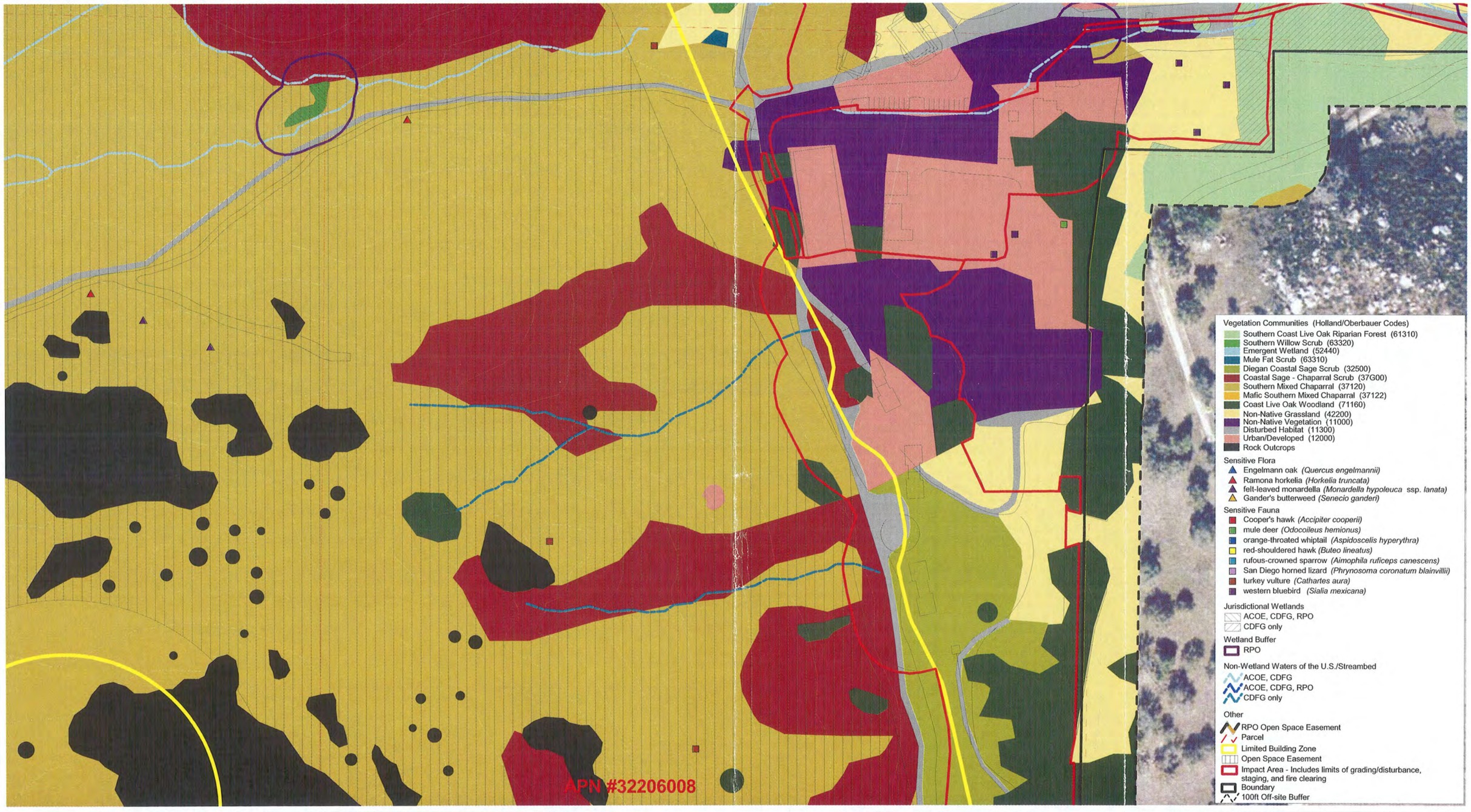
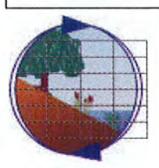
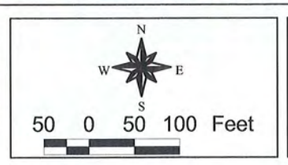
Biological Resources Map
Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 8

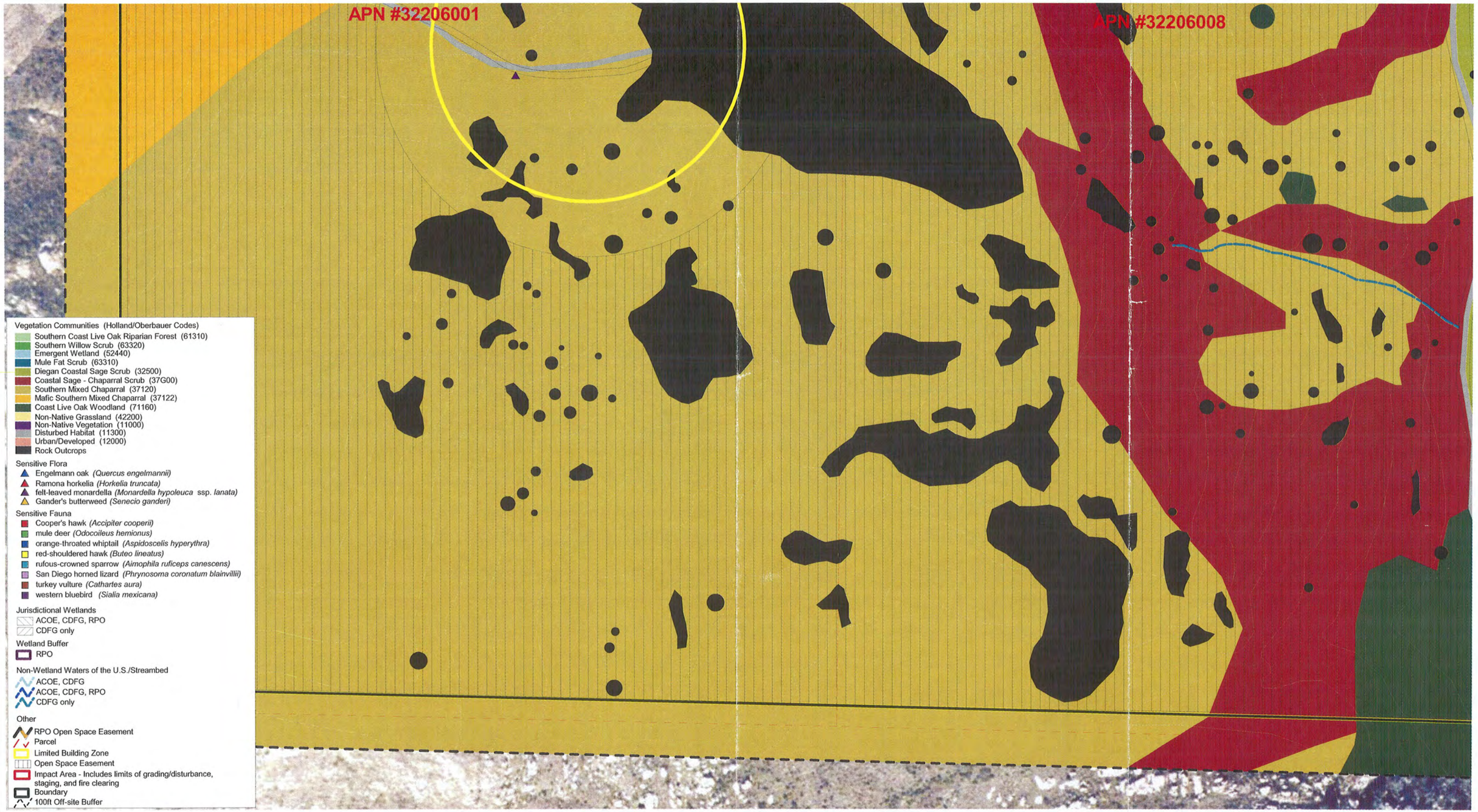


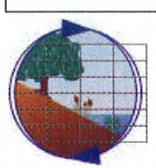


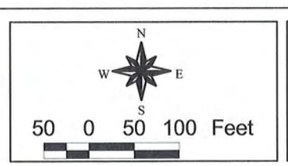


Biological Resources Map
Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 9







Biological Resources Map
Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 10

APN #32206008

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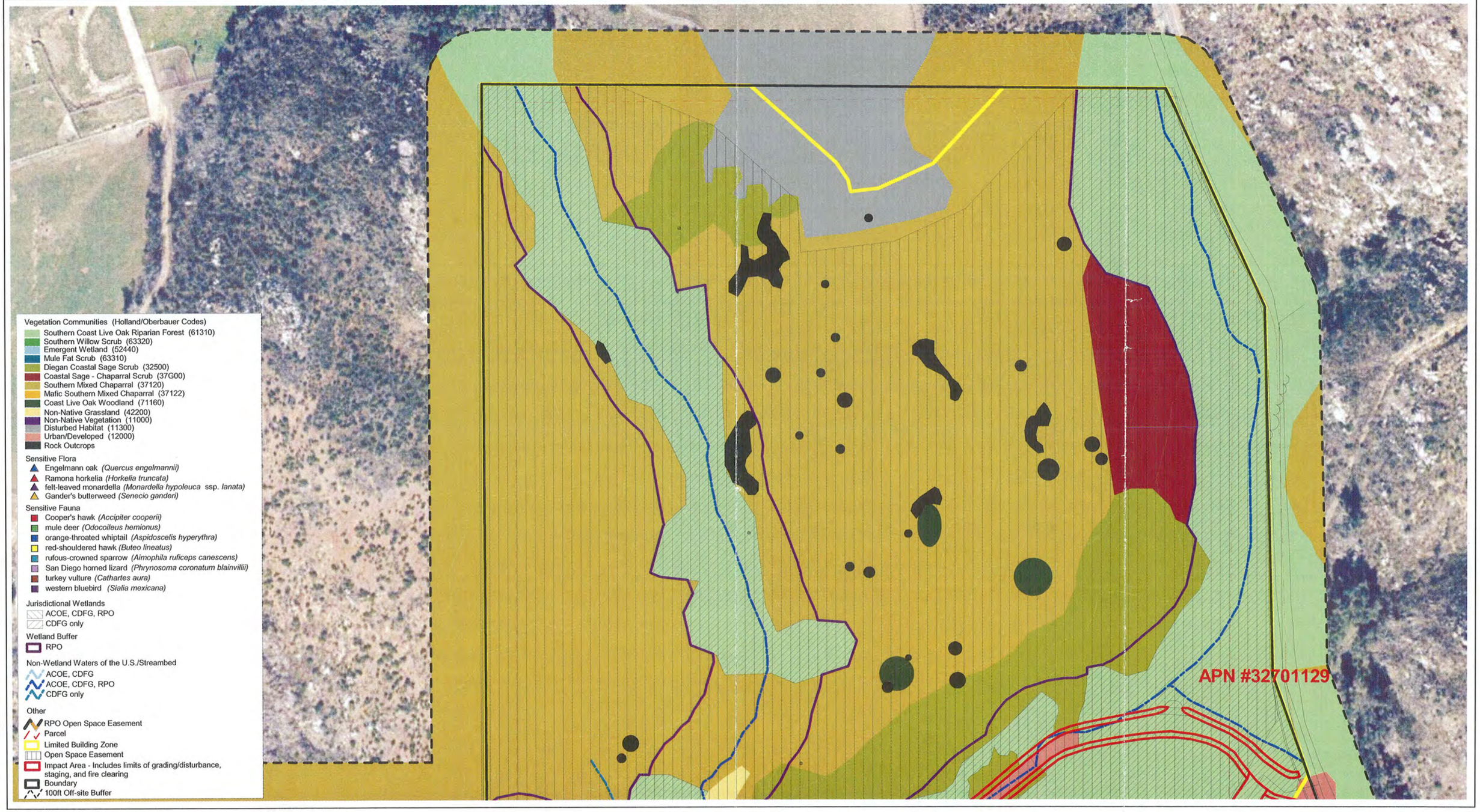
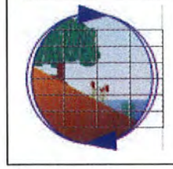
Biological Resources Map
Salvation Army Divisional Camp and Retreat Proposed Plan

Figure 2a
Sheet 11





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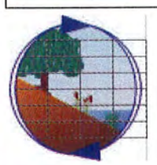
Biological Resources Map

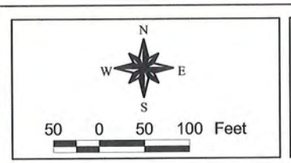
Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 1

Biological Resources Map
Salvation Army Divisional Camp and Retreat Alternative 1

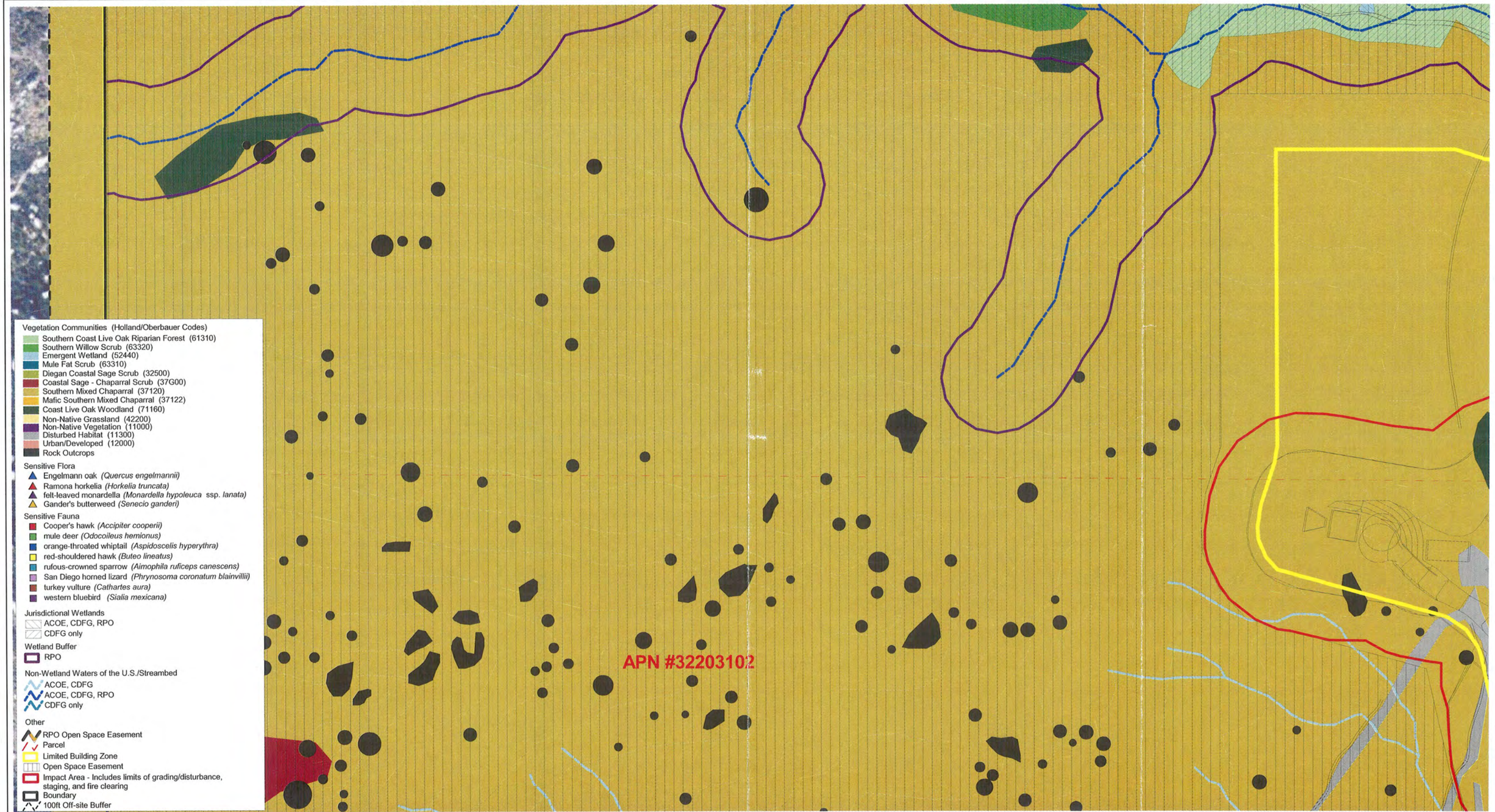
Figure 2b
Sheet 2

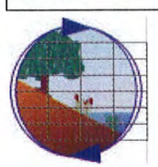


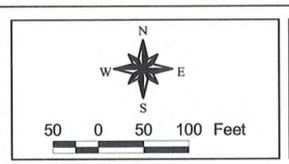


Biological Resources Map
Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 3



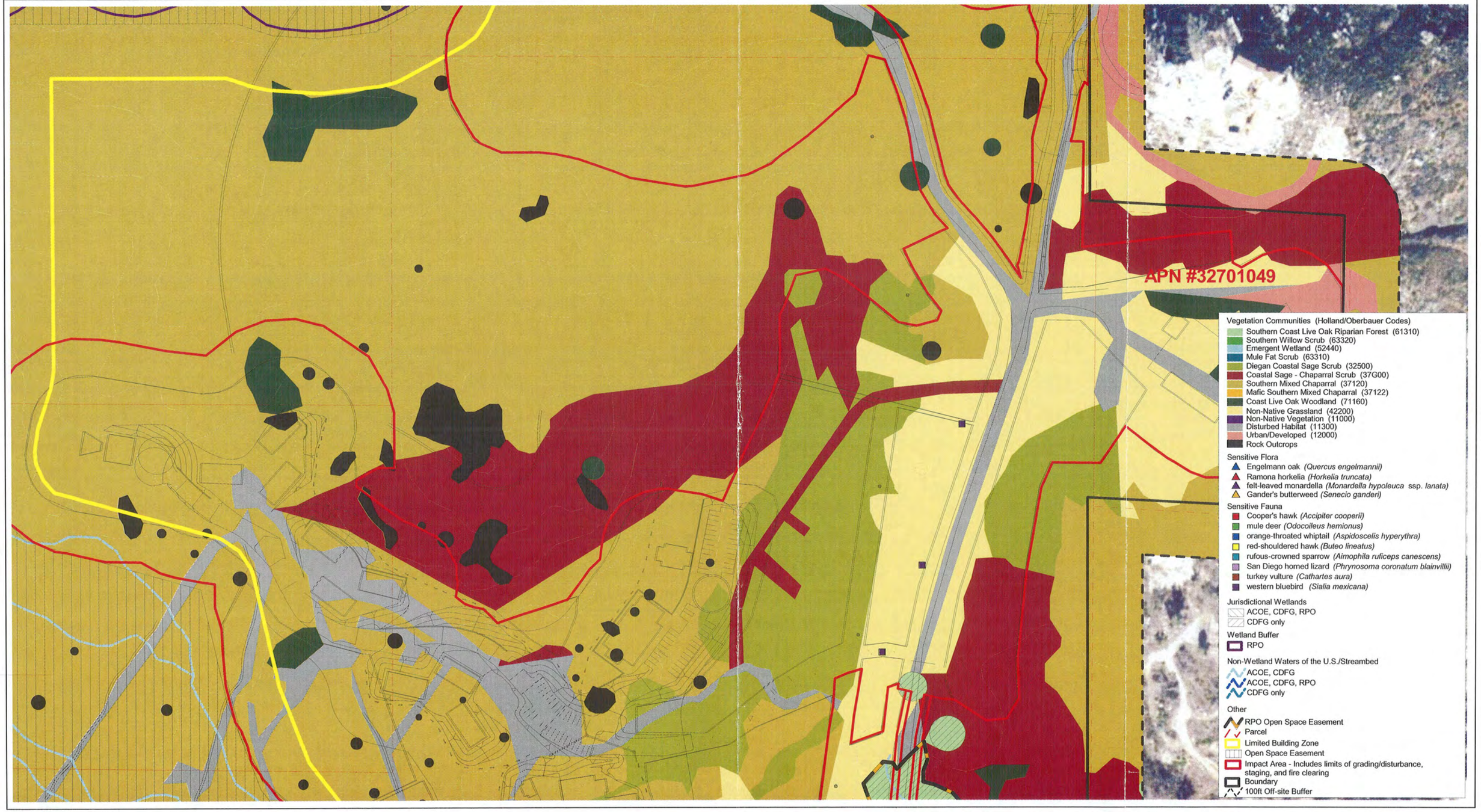




Biological Resources Map

Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 4



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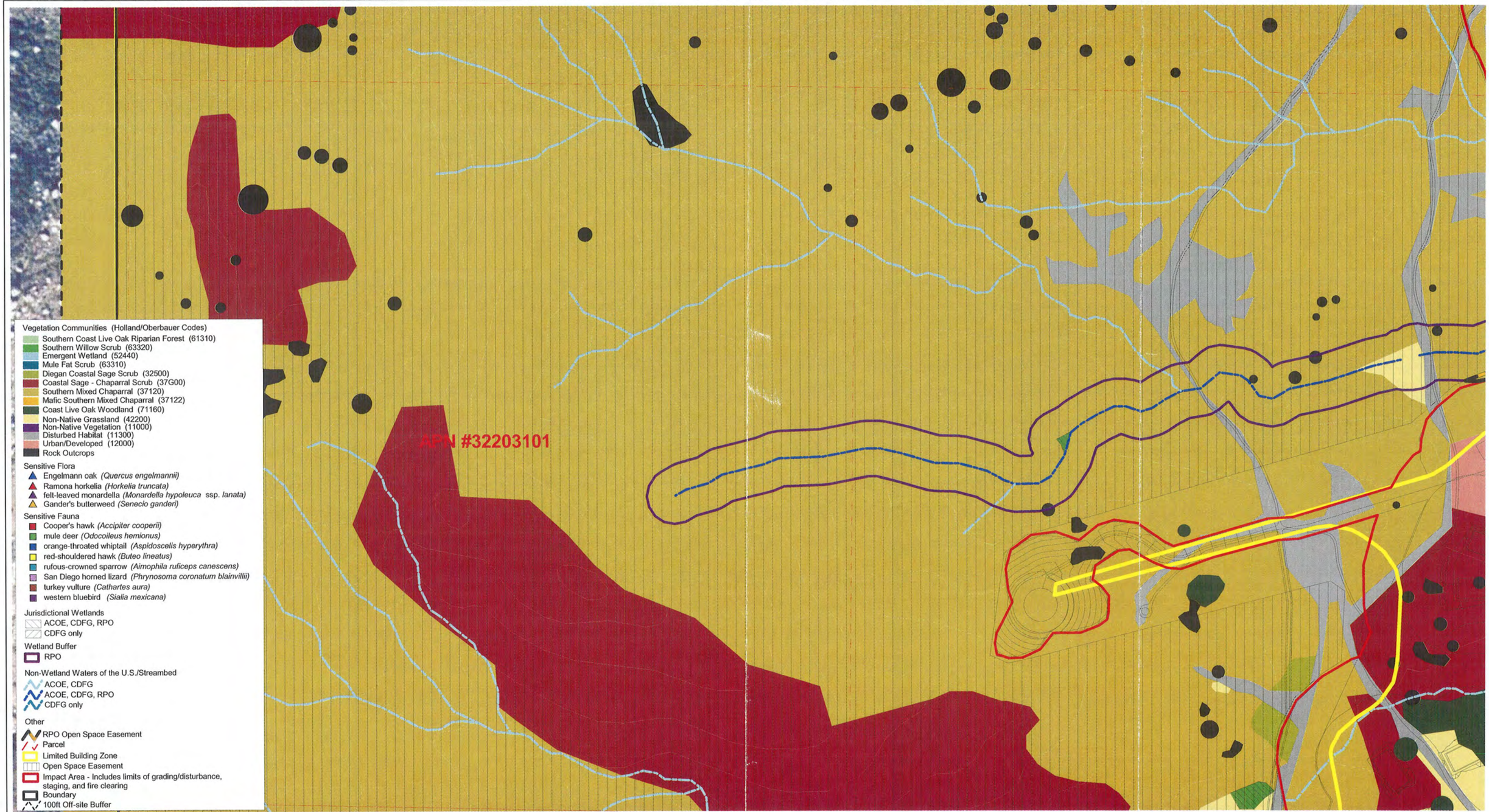
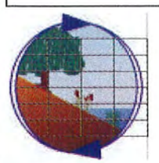
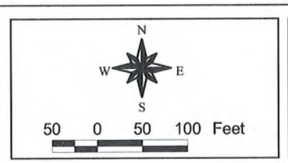
Biological Resources Map
Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 5

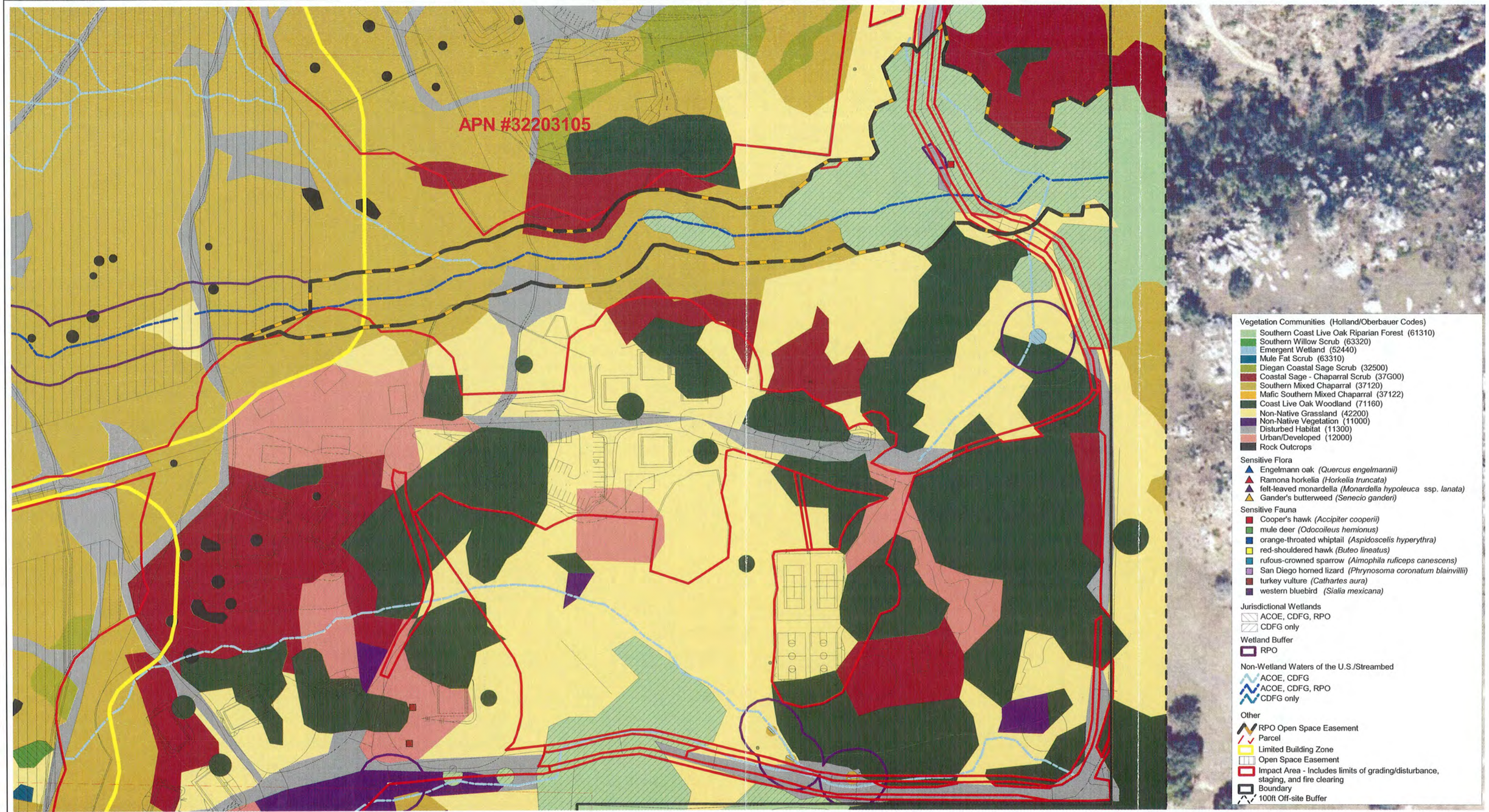


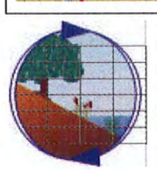




Biological Resources Map
Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 6





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50 0 50 100 Feet

Biological Resources Map

Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 7

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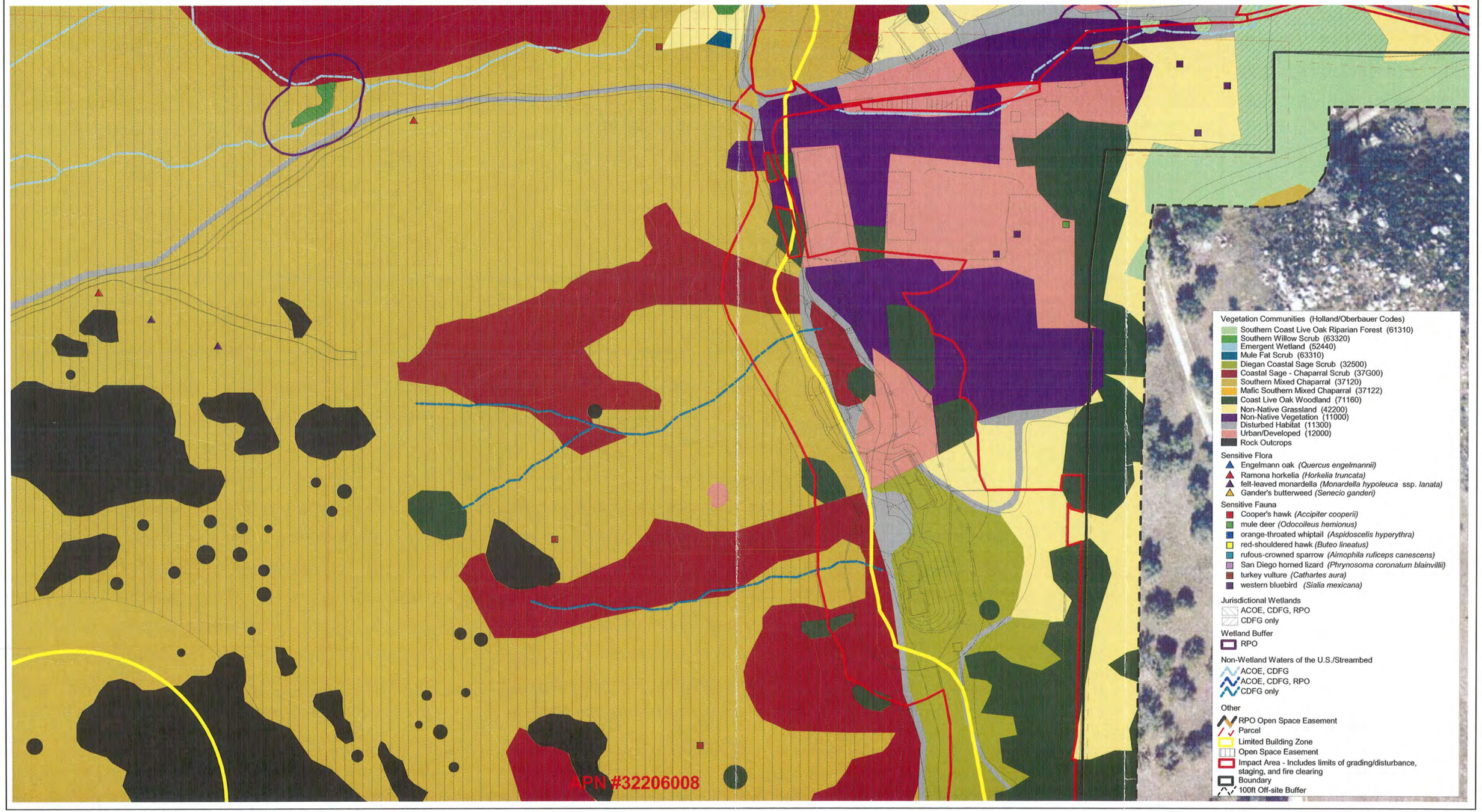
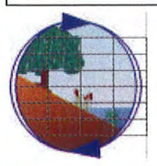
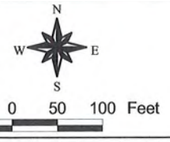
Biological Resources Map
Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 8







Biological Resources Map
Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 9

APN #32206001

APN #32206008

Vegetation Communities (Holland/Oberbauer Codes)
- Southern Coast Live Oak Riparian Forest (61310)
- Southern Willow Scrub (63320)
- Emergent Wetland (52440)
- Mule Fat Scrub (63310)
- Diegan Coastal Sage Scrub (32500)
- Coastal Sage - Chaparral Scrub (37G00)
- Southern Mixed Chaparral (37120)
- Mafic Southern Mixed Chaparral (37122)
- Coast Live Oak Woodland (71160)
- Non-Native Grassland (42200)
- Non-Native Vegetation (11000)
- Disturbed Habitat (11300)
- Urban/Developed (12000)
- Rock Outcrops

Sensitive Flora
- Engelmann oak *(Quercus engelmannii)*
- Ramona horkelia *(Horkelia truncata)*
- felt-leaved monardella *(Monardella hypoleuca* ssp. *lanata)*
- Gander's butterweed *(Senecio ganderi)*

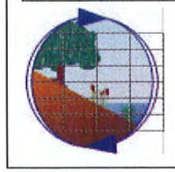
Sensitive Fauna
- Cooper's hawk *(Accipiter cooperii)*
- mule deer *(Odocoileus hemionus)*
- orange-throated whiptail *(Aspidoscelis hyperythra)*
- red-shouldered hawk *(Buteo lineatus)*
- rufous-crowned sparrow *(Aimophila ruficeps canescens)*
- San Diego horned lizard *(Phrynosoma coronatum blainvillii)*
- turkey vulture *(Cathartes aura)*
- western bluebird *(Sialia mexicana)*

Jurisdictional Wetlands
- ACOE, CDFG, RPO
- CDFG only

Wetland Buffer
- RPO

Non-Wetland Waters of the U.S./Streambed
- ACOE, CDFG
- ACOE, CDFG, RPO
- CDFG only

Other
- RPO Open Space Easement
- Parcel
- Limited Building Zone
- Open Space Easement
- Impact Area - Includes limits of grading/disturbance, staging, and fire clearing
- Boundary
- 100ft Off-site Buffer



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Biological Resources Map

Salvation Army Divisional Camp and Retreat Alternative 1

Figure 2b
Sheet 10